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THE

RETROSPECT OF MEDICINE:

BEING

A HALF-YEARLY JOURNAL,

CONTAINING A RETROSPECTIVE VIEW OF EVERY DISCOVERY AND PRACTICAL IMPROVEMENT IN THE MEDICAL SCIENCES.

EDITED BY

W. BRAITHWAITE,

LECTURER ON OBSTETRIC MEDICINE AT THE LEEDS SCHOOL OF MEDICINE, ETC.

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PRACTICAL MEDICINE.

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DISEASES AFFECTING THE SYSTEM GENERALLY.

ART. 1—ON TYPHUS FEVER.

[The prevalence of Fever during the past year ought to induce us to pay more than usual attention to the individual opinions of those who have been chiefly in the midst of it. DR. O'REILLY, medical officer of the Oldcastle Workhouse and Union Fever Hospital, speaking of his own district, says,]

Two-thirds of the cases which presented themselves in this locality were simple continued fever, having a critical termination, on the fifth, seventh, ninth, or eleventh days, the treatment required being mild purgatives at the commencement, and diaphoretics towards the latter stages, together with a liberal allowance of drink and beef-tea. The patients always recovered. About one-third of the cases were of the true typhoid character. It was not found necessary or expedient to deplete the system either by purgatives, leeching, or venesection. The treatment was comprised in the exhibition of diaphoretics for the first seven or eight days, strong beef broth made salty next allowed in addition, and if the patient was old, negus or punch was also supplied on the ninth or tenth day, and the case managed in this way up to the thirteenth or fifteenth day, when either a copious secretion from the kidneys, skin, or discharge from the bowels, together with the pulse becoming slow and steady, and the tongue getting moist and clean at the edges, indicated that the fever was subsiding. It now only remained to suspend the treatment, and in about twenty-four hours to administer some mild aperient, and place the patient on light nutritious regimen, and afterwards some preparation of bark. The great frequency of relapses in what may be termed the short fever, must have struck every person. The patient, after being well perhaps for ten or fifteen days, is suddenly seized with fever, which may be a more tedious form of continued, or actually assume the real typhoid character, or a person after an attack of typhus may have continued fever. The treatment of course is the same for either, with very little difference, as has been already pointed out.

It is of great consequence to be able to diagnose the two forms of fever from each other as soon as the patients are examined. An experienced eye can almost always form a correct opinion: he will recognize in the flushed countenance, strong bounding pulse, and white swollen tongue, the simple continued fever; whilst the depressed appearances of the patient, the quick small pulse, the tongue nearly clean, slightly covered with a light yellow hue in centre, and the great prostration of strength, are sure indications that the patient is seized with typhus.

Now, if defined notions are not had on the kind of disease to be dealt with, bad or even fatal consequences may be the result; a great deal of mischief may be done by a person who does not know the form of fever he has to contend against until the fifth, sixth, seventh, or eighth day, when one or other of the eruptions peculiar to typhus fever will remove all doubts on the matter. If lowering the system does little or no harm in the one case, it has the effect of producing extreme debility in the other, just at the time the crisis is about taking place. Where a person of intemperate habits contracts typhus fever, the symptoms are very urgent for the first seven or eight days. The great pain of the head, loss of sleep, the intolerance of light and sound, as well as increased temperature of the head, will induce many to apply a number of leeches, and that more than once, and to have the bowels freely acted on by smart purgatives. The patients treated in this way will generally be found on the ninth or sixteenth day stating they have no pain any where, be quite collected, but have a tympanitic abdomen, a dry and brown tongue, with a pulse 120, small, and easily compressed, together with twitching of the muscles or hiccup—perhaps, too, involuntary discharges. Now draughts, comprised of camphor and carbonate of ammonia, may be ordered, together with some preparation of opium, with stimulants in the shape of wine and brandy, blisters and mustard sinapisms, and the patient, notwithstanding all that has been done, will continue sinking until probably the eleventh or thirteenth day, when he will fall into a lethargic state, be covered with a clammy perspiration, having his urine copiously secreted into the bladder, where it will in most cases be retained, unless strict attention is paid to have it drawn off by the catheter; the tongue also gets moist, and commences to clean at the edges—in fact, matters clearly show that the crisis has set in; but the quick, small, soft pulse, and the copious secretion of mucus into the bronchial tubes, which the patient endeavours to cough up, but has not sufficient strength to accomplish, announces that his dissolution quickly approaches.

Having drawn the picture of a formidable case daily met in practice, it now remains for me to remark, that no depletion, either by leeching or purgatives, should be put in practice: the patient's strength should be preserved to enable him to get through the crisis. The head can be sufficiently kept cold by pouring cold water on it from time to time, or the application of ice placed in a bladder. Again, instead of giving purgatives, the patient should get from the onset good strong broth made salty, and mild diaphoretics; small doses of calomel, about a grain night and morning, should be given, and the inunction of a scruple of mercurial ointment, night and morning, until the crisis begins to appear; stimulants, such as sherry wine and brandy should be avoided, and if the latter is found to be indispensable, it is just at the time the crisis is expected it should be given to insure advantage. I believe the stimulants in question are too powerful for a brain that has been too often put into a state of fermentation, if I may use the expression, and have a pernicious effect upon it; but as vitality is to be maintained, and the constitution propped up, good old claret, the pure juice of the grape, may be freely imbibed without causing excitement. If hiccup or twitching of the muscles are present, musk will be found useful, as also the application of a blister to the nape of the neck, or epigastrium, or region of the heart.

If the case goes on favourably, the pulse will be found to fall from 120 to 100 on the thirteenth day, and be as low as 80 on the fifteenth, when the claret is to be discontinued, and a mild aperient administered on the sixteenth day, and the patient put on nutritious regimen. As a general rule, as soon as the pulse gets slow, the stimulants should be at once diminished or discontinued. To persist in their use would be only to place the patient in a perilous state for obvious reasons; judgment and discrimination are required to know when in fact stimulants are wanting, and how they should be discontinued.

The remarks I have made with respect to persons of intemperate habits contracting typus fever are equally applicable to professional men and those engaged in arduous worldly pursuits, as their nervous system is kept too much in excitement, although from a different cause. Where a person who has asthma or chronic bronchitis gets typhus fever, the symptoms become extremely urgent, the countenance assumes a livid hue, the pulse becomes very quick, small, and compressible, the patient appears in danger of being suffocated. The blood not being properly oxygenised in the lungs, the carbon exercises a poisonous influence on the whole system. In addition to the general treatment recommended, blister after blister must be applied to the chest, until the crisis is over. It is here also, punch must be freely permitted, and that camphor and ammonia, combined with anodynes, will be given with good effect. The patient should, if possible, be mercurialized. When diarrhœa sets in towards the thirteenth or fifteenth day, it should not be interfered with; but when it is a complication in the commencement, the application of hot poultices to the abdomen, or in some instances the application of a blister will be found to answer, together with a liberal allowance of port wine, negus, and a small anodyne draught at night. When the liver is engaged, and the patient is jaundiced, blue pill will be required to be administered, and afterwards the application of a blister to the hepatic region, which should be dressed with mercurial ointment until the gums are touched. A disagreeable and troublesome sequel often occurs after this complication; the patient will complain of want of sleep and acute pains in the joints. Dover's powder given at night, and colchicum draughts during the day, will soon remove the evil. It is not uncommon, after a severe attack of fever, for the patient to get œdema of the lower extremities; this is to be removed by putting the patient on a generous diet and administering diuretics, when it will soon disappear on the patient getting into condition.

On being called to prescribe for a patient who has typhus fever for twelve days, and for whom proper treatment has not been adopted, he will be found to have the teeth and tongue covered with sordes; the countenance sunk; the pulse weak, small, and compressible; involuntary discharges, with a tympanitic abdomen. Here the exhibition of restoratives and stimulants, such as broth, claret, brandy, and camphor, with ammonia, will be given with decided advantage, and in a short period great improvement will be observed, and progressive amelioration of the case will go on until the patient is quite recovered; of course the administration of the remedies is to be influenced by the indications already advanced. In this case the powers of life are prostrated to the lowest degree, and the constitution must be supported. I must remark that the grand point in the treatment of fever is not to have attention directed to one organ in particular, but to treat the fever on general principles. With respect to the prognosis, *cæteris paribus*, persons of a bilious temperament are better able to get through the disease, next those of a sanguineous, whilst those of a nervous or scrofulous diathesis, experience some difficulty in recovering. It will be found more males die of typhus fever than females.

Dublin Medical Press, Oct. 13, 1847. *p.* 225.

[On the subject of the prevalent fever we have some valuable remarks by a few eminent physicians in the London Medical Society.]

Dr. CLUTTERBUCK remarked, in allusion to the prevalence of fever at present, that medical men were in the habit of expecting more benefit from their art than they had any right to calculate upon. In the present fever, which was the ordinary low fever, or typhus, the passive mode of treatment was the best, active remedies being of little use at the stage of the disorder in which the patient was usually seen. In idiopathic fever, Dr. Clutterbuck considered the brain to be the seat of the disease. He was inclined to agree with some French authors, who thought all diseases organic: functional disease was an absurd term, as there could not be a disordered function without disorder of the organ performing it—there could not be an effect without a cause. In typhoid fever the brain was the organ primarily and essentially affected. This state of the brain was, he believed, inflammatory; the febrile symytoms, the hot skin, furred tongue, and accelerated and disordered circulation, were the effects of the local affection, and would seem to indicate the use of blood-letting and other depleting remedies; but this did not necessarily follow. The peculiarity of the organ affected influenced the treatment. In inflammation of the heart, for instance, there was often a feeble pulse, the heart not being able to admit the usual quantity of blood, This state modified the treatment; you could not treat it as you would a pleurisy, yet they were both caused by inflammation. Feebleness of pulse did not, however, always indicate debility of system. As the fever went on, the system was changed, physically as well as vitally; large blood-lettings could not check the disease; the organs must slowly improve as they became slowly affected. Moderate depleting measures might sometimes be necessary, when we saw the patient at an early period. Although the pulse was weak, and the muscular power depressed, stimulants were not proper; they did harm. The disease was not founded on debility, it depended on increased action. The patient's feelings were an excellent guide to the treatment, and we should give drink and food as they were required. We must attend to cleanliness, and have a constant supply of pure air night and day. There was a tendency in inflammation to subside spontaneously, and the passive treatment, or what the French called *medicine expectante*, answered best. A disease which had gone on for a week could not be cured in a day; we must expect it to take quite as long to subside.

The president, (Mr. Dendy) remarked, that Dr. Clutterbuck's observations were negative; the first stage seemed to him (Mr. Dendy) the most important.

Dr. T. Thompson said, that contrary to Dr. Clutterbuck's experience, he had rather gained confidence in treatment in these cases, than lost it. Though fever was indisposed to yield to treatment, yet it might be much moderated by proper remedies. The mild mercurial treatment seemed to him the best in the present typhus, as well as when it was associated with bronchitis or diarrhœa. A profuse secretion of bile often seemed to precede the cure, and this was assisted by mild mercurials. He gave the mercury with chalk three times a-day, combining it with Dover's powder when diarrhœa was present. Dr. Thompson differed from Dr. Clutterbuck as to all diseases having a local origin; on the contrary, he thought almost every disease depended on the general state of the system. He could not think of any disease strictly local, except a mechanical injury; for instance, a scrofulous enlargement of a gland in the neck depended on the strumous state of the system.

Dr. Clutterbuck replied, that Dr. Thompson confounded the predisposition to disease with the disease itself. Previous to the swelling of the gland the patient often enjoyed the best health, with no sign of disease; on exposure to cold the gland swelled.

This he (Dr. Clutterbuck) called the disease which is modified by the constitution. Of the predisposition we knew nothing, except by the effects.

Dr. Willshire said, a scrofulous gland indicated the scrofulous diathesis; a cancerous mamma, the cancerous diathesis; yet at the same time, pleurisy, pneumonia, hepatitis, &c., were local affections. The constitution of the fever must be defined before we could understand the treatment. In some cases, stimulants administered early, cut short the disease; in others, mild remedies were the best. In the remittents of children, complicated with affections of the large intestines, and in other fevers, the chlorate of potassa was a valuable remedy.

Medical Gazette, Oct. 15, 1847, *p.* 686.

[Dr. Wright, of Birmingham, well observes, that when stimulants are indicated in fever, we must not be deterred from their use by the existence of thirst, flushed cheeks, depraved secretions, &c. He says,]

You have seen, in my practice of last year, how a persevering use of due stimulation in typhoid fever will lessen the frequency, and at the same time increase the force, of the pulse; dissipate the flush from the cheeks; moisten the mouth, and clean the tongue; dispose to sleep, and, by giving tone and energy to the system, improve those secretions that had become depraved from weakness. Even the suggestions of organic chemistry, valuable as they often are in the practical business of the bedside, are sometimes to be disregarded in the necessity that may exist for prosecuting any single and well-indicated plan of treatment. It might be argued, that when the urine is ammoniacal, the perspiration alkaline and foul like the breath, and there is a general tendency to putrescence, ammonia would be an unsuitable remedy. Yet you have several times seen all these morbid conditions corrected by this very medicine. I have no doubt that any other diffusible stimulant which, like ammonia, has often a prolonged action, and little affects the sensorial functions, would have answered as well; but I know of none that in all these particulars is equal to ammonia, and therefore give it the preference.

One of the best cases illustrative of the value of stimulant treatment which I saw during the prevalence of the typhoid fever of 1846, was in the person of a little boy, aged eleven years, whom I attended in consultation with Mr. Francis Elkington of this town. He had been ill some days when I first saw him, and presented all the ordinary features of the fever. Mr. Elkington was treating him with bark, ammonia, and nitric ether, which seemed to me to be so judicious a plan as to deserve a continuance. On the following day the boy was in much the same state as before, and we agreed to give his medicine a little more frequently, and also to allow him more wine. In spite of this, his vital powers continued to fail, and on the occasion of our next visit, the subsequent day, the nurse told us it was not necessary to go up stairs, as the little fellow was "all but dead." Of course we visited him, notwithstanding the suggestion, but to all appearances it seemed as though we had come rather on ceremony than for service. For several hours he had lain in the condition in which we found him, and the nurse had declined administering either wine or medicine, from his inability to swallow. He was cold all over; pupils dilated, and quite insensible; eyes open and covered with films; action of heart inappreciable over its site; pulse not sufficiently distinguishable at the wrist to say what kind of pulse it was; breathing hardly perceptible. There was no consciousness whatever of passing events, and nothing that we could say or do roused the poor creature: to sum his case up in a few words, he had every appearance of being close upon the point of death. Still, he was *not dead;* and, acting upon the belief that "whilst there is life there is hope" (in such cases as these a very advisable belief), we determined not to lose even the last chance, and therefore proceeded to give him wine. The first teaspoonful put into his mouth remained some seconds there, and then passed with a feeble gurgle down his throat. We followed that dose by a similar one, and then another, and another, until half a glassful had been swallowed. We then let him rest for about a minute, at the end of which time his pulse had become perceptible at the wrist. This was the only sign of reaction, and, trifling though it was, it was encouraging, inasmuch that it showed us that there was vitality enough left to *respond to stimulation.* We therefore ordered that he should have a large wineglass (holding about an ounce and a half) of port given to him every other hour, and in the intervening hour a similar glass of strong beef-tea, containing two drachms of compound spirit of ammonia. One hour he had the wine, and the next hour the beef-tea and ammonia. The remedies were strong for so young a subject, but the case was desperate, and we did not choose to abandon him whilst there was even a "forlorn hope" left.

We visited our patient the next morning, about fourteen hours having elapsed, and we found him on the night-chair, sufficiently comfortable and conscious to greet us with a smile. On Mr. Elkington asking him how he was, he answered in a strong voice, that he was better, and had just taken some coffee and bread and butter. In this short space of time his tongue had become moist, and had nearly lost its dark brown colour; the sordes had completely disappeared from his teeth; in fact, without enumerating the items in proof, I may say he had become a living intelligent creature! From this period there was only one uninterrupted and rapid progress to recovery. This case is one of the most remarkable of the kind I ever met with. I have no comments to offer upon it, for I think none are necessary; but I am happy in being able to refer you, for its corroboration, to the accomplished practitioner whose name I have quoted in connection with it.

Medical Times, April 17, 1847, *p.* 148.

[Dr. Henry Kennedy, of Dublin, some years ago attended, with the late Dr. M'Dowell, a young man labouring under an attack of typhus, which impressed on his mind the necessity of more active treatment in many of these cases which assume at first an inflammatory character, followed by the usual exhaustion, such cases as are more frequently found among the wealthy and middle classes. He relates his case as follows:]

The symptoms of the disease ran high. The skin was hot; the pulse 120, jerking. The tongue densely coated with a cream-coloured fur; and the patient complained much of pains through his body, and more particularly of racking pain in the head. His eyes were suffused, and a good deal injected; and his manner altered from his usual state. It was thought advisable to bleed him from the arm, and ℥xii. were taken. The coagulum was of a fair consistence, and presented on its surface a sizy buff. The symptoms were moderated by the bleeding, but as pain of the head still continued, some leeches were applied to the temples, and with marked relief. In this way matters went on till the seventh day, when petechiæ appeared; few in number, well defined, and of a reddish colour. At this period the symptoms began to put on a much more serious aspect. The tongue got dry and brown; the pulse rose to 130; the eyes became more injected; and the slight delirium which had previously existed, now showed itself in fits of great violence; the patient being at times hard to manage, and keep in his bed. A modified antiphlogistic treatment, including tartar emetic, &c., had been used during all this time. In spite of it, however, the patient was going on from bad to worse, and on the morning of the tenth day his state appeared nearly hopeless. It so happened that during one of the fits of violence which took place this day, the bandage got loose on the arm; the vein burst, and before the bleeding was commanded a considerable quantity of blood was lost; probably ℥xii. The effect was magical. *The patient was at once brought to his senses;* so much so, as to be aware of the danger of what was going on. I found him with a pale anxious face, and his pulse excessively rapid. Otherwise he was quiet, and perfectly collected. By means of stimulants, anodynes, and heat, he rallied from this state; and he subsequently made a slow, but steady recovery.

The case just given was one of common typhus. The petechiæ, dry tongue, and wandering delirium, afford proof of this. It could scarcely be referred to any of the varieties of the disease into which authors have divided it. If any, it might possibly be placed under the head of inflammatory typhus. It was not, however, that the case presented any unusual symptom, that I have detailed it; but because it showed the important fact, that a patient might lose a quantity of blood at an advanced stage of fever, not only with impunity, but with positive benefit. At a stage of the disease, be it observed, when no one would ever think of abstracting blood in the way, and to the same amount, as took place in this instance from accident.

[Now, what, asks Dr. Kennedy, is the cause of the greater mortality from fever amongst the wealthier classes? It is that the treatment usually adopted is too much on the expectant plan. By this means the disease progresses till the symptoms bid defiance to treatment.]

"Fever," continues Dr. K., "as it appears amongst the middle classes (and I am only now speaking of it), in general becomes serious by the brain getting engaged. That is, the majority of cases present brain symptoms, and are serious or fatal as the case may happen to be. This I take to be an important distinction between fever amongst the poorer and wealthier classes. Not that the former do not present us with similar forms of the disease, but only that the latter present it much more frequently. When the disease is once fully formed, it usually takes one of two courses. The patient early exhibits signs of stupor, which gradually passes into insensibility, coma, and death. Or else delirium shows itself early; this increases gradually, till the patient becomes raving mad, as the expression is; he never sleeps, and he dies after some days, to all appearance exhausted by the continued violence of the symptoms; though even here coma is very apt to terminate the scene. It is not necessary for my present purpose to advert to the other symptoms attendant on this form of fever. But let the case be traced further. What does post-mortem examination disclose? Do we find nothing in the brain sufficient to account for the symptoms before death? We do; and I believe the appearances are constant, provided the patient dies in either of the ways alluded to. What, then, is the morbid anatomy (not the pathology) of such cases? Venous and frequently arterial congestion; injection of the brain's substance; a considerable amount of subarachnoid effusion, often of a gelatinous consistence: patches of opacity in this membrane itself; and also the appearances as if the blood had exuded from the vessels; or as if the latter had actually ruptured. Such are the morbid appearances which have come under my notice in these cases, and I have had ample opportunities of confirming them. I have examined the brain of an individual who died of the very worst form of fever, on the seventh day reckoning from the rigor; and I have examined them at all subsequent periods; and still the appearances were very much the same. It is quite true that differences in degree existed; such, for instance, as there being more effusion in one case than another. But is this not to be expected? On the contrary, is it not what we should naturally look for? If we take any other disease that is often fatal, do we find the amount of morbid lesion a constant quantity? It is so in pneumonia, in pericarditis, in peritonitis? Is it not well known to be constantly varying? And why, then, should we not find the same to obtain in the brain? The lesions described as occurring in this organ, will, I should suppose, be allowed to be sufficient to account for the symptoms present before death.

In making these remarks, I would not have it supposed that I am an advocate for the theory of fever advanced by Clutterbuck;

for I believe that the state of brain described is secondary to the cause of the fever itself, whatever it may be. It is in point of fact a complication of the disease; but certainly a very important one.

If, then, it be granted that fever, as it occurs amongst the higher classes and in the majority of cases, usually is serious by the brain becoming affected; if this occur at a particular period of the disease; if experience, above every thing else, tells us that when the head affection has set in, our best efforts are but too frequently baffled; and if anatomy shows us a considerable amount of morbid lesion in the organ; what course, I would ask, ought we to pursue? Is it to wait till these fatal symptoms have declared themselves? I would say not. On the contrary, let our treatment anticipate them. Dr. Graves, who has given a large attention to the subject, and written most ably on fever, has long since recommended treatment with the same object in view; that is to anticipate the head symptoms. For this purpose he advises free leeching, followed by powerful blistering. I would go a step farther, and would not hesitate—wherever the state of the patient allowed of it—to take blood from the arm. Recollecting, however, that the disease has always a certain duration, it will be more prudent to take but a small quantity at one time; and if necessary this can be repeated. The quantity may vary from eight to twelve ounces I am well aware of the arguments which have been, and still are urged by many against this line of practice. It is said that it is one which may jeopardise life. But is there any force in such an argument? Does it not equally apply to the use of purgatives? of antimonials? of opium? of wine? But it will be said that bleeding, being more powerful than any of these, may produce effects which it is not possible to combat. Not so, it may be replied, if only common discretion be used. It is granted that bleeding will lower the patient. Strange it would be if it did not. Is not this the very reason for which it is employed? Is it not our object in every severe case of fever to lessen the symptoms, so as to make them compatible with the existence of life? Have not leeches, blisters, purgatives, and antimonials, all the same tendency? Yet we hesitate not in using them. The weakness, too, that is induced, is it so very formidable a symptom? Will any one compare it for a moment with the risk which attends on delirium, or still more on coma? On the contrary, I feel confident that every one, who has had to treat fever, will agree with me in saying that no cases of this disease go on more smoothly than those which require to be fed, as it were, all through. That is, those in which weakness has been, from first to last, the most prominent symptom. As to the argument sometimes advanced against the use of bleeding—namely, that it causes a very tedious convalescence, it ought not to sway our judgment for a moment; inasmuch as we have been considering a class of cases——and those only--in which life is brought into the greatest danger from head symptoms by the tenth day."

[Dr. KENNEDY states that he is fully borne out in his views by the late Dr. John Crampton, of Dublin, who often bled his patients on the fifth, sixth, and seventh days of the disease, and even when petechiæ existed. After relating some of the effects of bloodletting, Dr. Kennedy says,]

Such were the more immediate effects of general bleeding, as it came under my notice; and they were wonderfully uniform; fully as much so as any other point in the practice of medicine. But they were not the only results; for when the time arrived for the use of stimulants, these were borne well, and very rarely did it happen that wine had to be countermanded—a fact of considerable importance; as every one must be aware what difficulty, almost uncertainty, attends the administration of this valuable agent amongst the wealthier classes. My conviction is, that if treatment were adopted in the earlier stages of fever—what might be called preparatory treatment—that then wine could be ordered at the proper stage, with much greater certainty, and far better results. Other diseases, too, would bear out this remark. If we suppose a case of acute bronchitis or pneumonia, in which the stage that bleeding ought to have been used, has been allowed to pass by, we then become aware how much more difficult the treatment of such a case becomes; and how frequently all our usual remedies are proved to be useless. So, as it appears to me, is the case in fever; when not met, as it ought to be, in the early stage.

The last result of bleeding in fever, is, I believe, the tendency it has to prevent some one or other of those secondary congestions, or inflammations, which are so very apt to make their appearance, and render the disease still more serious, than it was at first.

What, then, is the substance of the remarks now made? Bearing in mind the class of cases to which they more particularly apply; that is fever, as it is usually met with amongst the better classes, where head symptoms so commonly supervene about the eighth day; I would say, that the early treatment may be of a more active kind than that usually adopted. That it may, nay ought, to be of such a kind, as to interfere directly with the disease; that is, by moderating the symptoms. That for this purpose, and with ordinary prudence, general bleeding may be used with perfect safety. That such lessens the intensity of the various symptoms ; prepares the patient for the administration of wine; and tends to prevent the accession of those secondary congestions or inflammations, owing to which life is so frequently lost. That in point of fact the treatment should anticipate the coming on of head symptoms, as Graves has long since advised ; and that it should partake of the active, often of the antiphlogistic plan, as distinguished from the expectant, with which latter it is possible too many rest content at the present day.

Dublin Medical Press, Oct. 20, 1847, *p.* 241.

[The morbid appearances of typhus, which prevailed in Edinburgh in 1846 and 1847, are given in an interesting paper by Dr. H. Bennett, in the Edinburgh Monthly Journal. Until 1846, it seems that intestinal lesion in typhus fever was exceedingly rare in Edinburgh, Dr. Bennett meeting with it only in three cases out of five hundred, which he had examined. He gives us the result of sixty-three cases of post mortem examinations made in 1846 and 1847.]

The organ most frequently affected was the spleen. In the majority of cases it was more or less enlarged and softened, presenting a mahogany brown colour and creamy consistence; so that when pressed, nearly the whole of its parenchyma could be squeezed out of its capsule. In ten cases the spleen contained one or more infiltrated masses of typhous debosits, of a yellowish or brownish-yellow colour. In two cases the deposit has softened and burst into the peritoneum, causing fatal peritonitis.

The organs most frequently affected after the spleen were the lungs. The most common lesion was bronchitis, the bronchial lining membrane being of a deep mahogany or purple colour, more or less infiltrated with serum or exudation. The fine bronchial tubes were frequently filled with a muco-purulent matter, more or less fluid, and in a few cases choked up with a reddish-brown creamy substance, probably a modified form of the exudation (typhous deposit) described by Remak. The apices of the lungs were very commonly œdematous, yielding on section a copious, greyish, frothy fluid. In fifteen cases the lungs were more or less consolidated by exudation, which seldom presented the character of normal hepatization. It was sometimes of a dirty-yellow tint, at others of a brownish chocolate colour, existing in masses of irregular outline and of variable size, resembling the typhous deposit previously spoken of, occasionally found in the spleen. In three cases there was pulmonary apoplexy.

The intestines presented the lesion so well described by Bretonneau, Louis, Cruveilhier, and others, (dothinenteritis, typhoid ulcer, &c. &c..) in nineteen cases. The peculiar elevation, sloughing, and ulceration of the round and oval patches had been carefully observed. and the anatomical description given by Mr. Goodsir for the most part confirmed. The elevated patches had been observed occasionally to extend as high as the duodenum, and as low as the rectum. In one case numerous dothinenteritic elevations, about the size and shape of a split pea, extended all over the ascending and transverse colon. In a few cases the isolated follicles in the large intestines were observed swollen and empty, presenting in their centre a dark-blue or black spot. In others, the round and oval patches of the small intestine were hypertrophied, elevated above the mucous membrane, and of a grayish or slate colour. Perforation of the intestine, causing fatal peritonitis, had occurred in three cases. Dysentery, with flakes of lymph, attached to the mucous membrane, over the ascending and transverse colon, was associated with intense dothinenteritis in one case. Oval and round cicatrices, exhibiting different stages of the healing process of the intestinal typhous ulcer, were observed in two cases.

In all the cases where the intestinal ulceration were recent, the mesenteric glands where enlarged, soft, and friable, and of a grayish or reddish purple colour. Some of these glands reached the size of a hen's egg. On section they presented a finely granular surface of a dirty yellow-grayish, or dark fawn colour, produced by infiltration of the typhous deposit; which was generally soft and friable, but sometimes in one or more parts of the swollen gland broken down with a fluid of creamy consistence.

In two cases there were glossitis and laryngitis, with tonsilitis; in one case abscess in the kidney, and in one an abscess in the posterior mediastinum.

The brain did not appear to participate much in the disease. It presented only occasional congestion, with slight effusion into the subarachnoid cavity, or into the lateral ventricles.

The blood in the great majority of cases was fluid, and of a dirty-brownish colour. In those instances, however, where the disease had been protracted, and especially in such as presented well marked typhous deposit, firm coagula were found in the heart and large vessels.

In seven cases no lesion whatever could be discovered.

The typhous deposit consists of a yellowish or flesh-coloured exudation, sometimes passing into a brownish colour, from the admixture of more or less blood. When first formed, it is of tolerably firm consistence, as in the spleen and glands of the mesentery and intestines, but rapidly undergoes the process of softening. In parenchymatous organs, it may be slowly absorbed or resolved, as in the lungs, spleen, and mesenteric glands, or it may produce ulceration or gangrene. In either case, should the individual recover, cicatrices with puckerings in the tissue are produced, the parenchyma around the deposit having contracted and become indurated. On mucous membranes the deposit is thrown off in the form of slough, and discharged by the excretory passages, leaving a characteristic round or oval-shaped ulcer. This process may be followed by cicatrization or perforation of the gut by ulceration. In the former case it leaves a round or oval-shaped depression in the mucous membrane, often of a blue colour, which subsequently becomes covered with epithelium: in the latter case it produces death by peritonitis.

The minute structure of the typhous deposit varies in different situations. In the lungs, spleen, and intestinal canal, it contains at an early stage a number of roundish or irregularly shaped corpuscles. They are about the 100th of a millimetre in diameter, contain several granules, with a nucleus about the 500th of a millimetre in diameter. Acetic acid renders them more transparent. They are conjoined with numerous granules and molecules, which become more abundant as the process of softening advances. In the mesenteric glands, a higher degree of cell formation takes place. Cells are formed about the 50th of a millimetre in diameter, containing from two to six, and sometimes even more nuclei, which become very distinct with thick edges on the addition of acetic acid, whilst the cell wall is partially dissolved. The same cells may occasionally be seen in the elevated typhous deposits of the intestinal glands. Sometimes the only appearance observable in the deposit, is that of numerous molecules and granules mixed with blood corpuscles.

Dr. Bennett considers that the pathology of this affection consists in a primary alteration of the blood, caused by the peculiar miasm or poison causing typhus fever; that, under such circumstances, local inflammations were set up in particular organs, and that the exudation attending it, instead of presenting the usual appearances, and undergoing the usual transformations, became modified so as to constitute the typhous deposits.

Dublin Medical Press, Oct. 20, 1847, *p.* 244

[The cold hydropathic treatment of fever has occasionally been recommended and practised since the publication of our last volume. The *warm* hydropathic process which we ventured to recommended in that volume, (Retrospect, Vol. xv. p. 15) has also been practised successfully by Mr. Burrows, who says,]

When the patient exhibited all the symptoms of "famine-fever" —viz., a cold skin, feeble sinking pulse, and an indifference to surrounding friends, he modified the treatment, wrung the sheet out of very hot water, and covered the patient just the same as when the cold sheet was applied, gave hot wine-negus, with the solution of the acetate of ammonia, and endeavoured to direct the circulation powerfully to the skin. Sudoresis being produced, the patient was covered as in a state of high excitement, but with this difference—a hot brick was covered with wet cloth, and wrapped in flannel, and then applied to the feet, which acted upon the skin like a vapour bath. By this process the morbid heat was reduced, the excretory functions of the skin restored, and the blood depurated from those effete matters which the suppressed excretions of the skin had retained. The patients invariably expressed themselves as being very much relieved by the treatment. On the return of the febrile symptoms, the process was repeated, once each day for three or four days. The result was, that some continued to convalesce from that period, others had symptoms of well-marked crisis on the eleventh or fourteenth day of the disease, which was likely to have run on to the twenty-first day, as far as could be calculated upon according to the ordinary ground of prognosis.

Prov. Med. and Surg. Journal, Sep. 22, 1847, *p.* 524.

2.—ON THE USE OF QUININE IN MIASMATIC FEVERS.

By Dr. Upshur, Norfolk, U. S.

[Dr. Upshur, who practices in Norfolk, Virginia, U. S., gives an account of one hundred and five cases of fever, of which eighty-three were intermittent, and twenty-two remittent. He gives large doses of quinine in all stages of the disease: in one case of quotidian, in a youth of 16, he gave fifteen grains just as the cold stage was passing off; the hot stage lasted only an hour, and the disease did not return. Dr. Upshur says,]

In twenty-five cases, I gave 30 grains in five hours, during the height of the febrile stage. The pulse was *lessened in force and frequency* in every instance under this treatment, and the paroxysm cut short by the speedy appearance of perspiration. In only one of these cases was the remedy preceded by other treatment. The exception was the case of an exceedingly robust man, in whom there existed, even in his ordinary health, a strong tendency of blood to the head. I bled him to twenty ounces before administering the quinine. He returned to his work (that of a baker,) forty-eight hours afterwards, and had no return of the fever during the season. He told me that for several years past he had not escaped an attack of bilious fever in the autumn, and that he was usually kept in his bed by it for three weeks. Said that he had taken the quinine before, but not while the "fever was on."

In one case, the patient was partially comatose during the first paroxysm. This condition was relieved, in a measure, by a cathartic of calomel and aloes. Three hours before the second chill was expected, I administered twenty-five grains of quinine, and followed this by fifteen grains more two hours afterwards. The patient missed the paroxysm and went to work the next day.

In fourteen cases there was a recurrence of the disease. The recurrence in ten of these, however, could be positively traced to a second exposure to the causes of the affection.

The masked forms of the disease yielded readily to the quinine treatment. One of the cases which simulated hysteria was remarkably severe in its character, the patient being seized every afternoon with violent convulsions, accompanied by flushed face and considerable excitement of the circulation. She was treated at first by active purgation, and vesicants to the nucha, with only slight abatement in the intensity of the paroxysm. The regularity with which the attacks came, coupled with the fact that the patient resided in a part of the city where intermittent fever was prevailing, suggested the employment of quinine. She commenced early in the morning with five grains every hour, and took thirty grains. The paroxysm was much milder in the evening, and did not recur at all on the next day. She remained well for seven days, when she was again attacked as in the first instance, and again relieved by the same treatment. She subsequently had a third attack which was cured in the same manner. Her catamenia had been interrupted for six months previous to her sickness, and did not return until six weeks after the last attack.

I was not called to a single case of remittent fever at the beginning of the disease. In one case the patient had been ill *eleven* days without any treatment whatever; she was much emaciated, and had suffered from diarrhœa for six days. I gave her a tablespoonful of the following mixture every hour:—

℞. Quinæ sulph., ʒss; morph. sulph., gr. ss.; Aquæ f. ℥iij. M.

In the course of five or six hours she perspired freely, fell into a quiet sleep, and in two days after was entirely free from disease. This was the sole treatment of the case, except the tinct. chlorid. ferri, which was given for ten days after convalescence was established.

The other cases were managed after the same manner—the large doses of quinine being preceded by a simple cathartic of jalap and bitartrate of potassa, in those cases only where there was great torpor of the bowels.

Not one of the one hundred and five cases died, and all together did not take a drachm of calomel, or other preparation of mercury.

I observed unpleasant symptoms in only three cases, where they seemed to be at all dependent upon the large doses of quinine.

I was never deterred from giving the quinine by the existence of diarrhœa, irritability of the stomach, or headache, provided the case was urgent, and it was absolutely necessary to put an immediate stop to the paroxysms. In cases of great torpor of the bowels, if there was time to spare, I preferred to begin the treatment by purging freely, because the quinine is not readily absorbed if there is much constipation. Usually, however, the safer practice is to put an end to the paroxysms first, and afterwards to attend to the local affections.

I have found great benefit from combining the sulphate of morphia with quinine, especially in those cases complicated with diarrhœa and irritable stomach. I also gave in many cases where the skin was very dry and the thirst urgent, the spt. æth. nit. combined with a solution of quinine, with great benefit.

My experience in the treatment of miasmatic fever in 1846, leads me to the following conclusions:—

1. In a large majority of cases, no matter of what type the fever is, the "preparatory treatment," so called, is worse than useless, causing a loss of time which is often fatal to the patient.

2. A large dose of quinine, (fifteen or twenty grains,) administered at once, produces a more certain and permanent curative impression upon the system, than small doses, (one or two grains,) frequently repeated.

3. Quinine in *large* doses, when administered in the hot stage, so far from exciting the circulation, acts as a decided sedative upon it —the pulse in every instance lessening in force and frequency under its influence. The dogma, therefore, that "quinine in fever is poison," must be discarded.

4. In *uncomplicated* miasmatic fever, mercurials are not at all essential to a complete and permanent cure. They may sometimes be given with advantage in cases where cathartics are indicated at the onset of the disease.

Medical Examiner, (U. S.) *March*, 1847, *p.* 113.

3.—*On African Remittent Fever.*—By Dr. A. Bryson.—[As preventive of Remittent Fever in Her Majesty's Navy. Dr. Bryson]

Would recommend that, as far as possible, cruisers should abstain from approaching the shore; that boat-service, already shown to be so inimical to health and life, should be given up altogether; that the greatest cleanliness should prevail, more especially with respect to the holds, and behind, or rather beneath, the limber-boards; that the men should not be permitted to land, unless it be required for the service, and then only for an hour or two, and never after nightfall; nor on any account to sleep on shore, unless the boats be overcrowded, and so leaky that it is impossible for the whole crew to sleep in them without great inconvenience; and even then it should only be attempted when there is a certainty of obtaining either the shelter of a house, or of a hut, or of their being protected by the boat's sails rigged up as a tent. A complete screen between the body and the sky is of more importance than laterally, particularly on a still clear night. Proper ventilation of the ship, and the avoidance of dampness, are also requisite. For the latter reason, dry holystoning, although objectionable to a certain degree from the dirt it occasions, is far preferable to the wet method in a healthy point of view. The prevention of fever from the decomposition of green wood is, of course, easily managed, by removing its bark, and charring it previously to its being taken on board. Prize-crews, when landed, should be under the eye of their officers, and all access to intoxicating liquors strictly prevented. The chloride of zinc is mentioned as the best disinfectant for shipping that can be obtained. Should fever, in spite of all these measures, break out on board, and manifest a tendency to become malignant, the vessel should immediately leave the coast, and proceed to some more temperate climate.

Cinchona bark and the sulphate of quinine are both extremely useful agents for the prevention of fever, when properly administered on these expeditions; and although it would appear their powers have been considerably underrated, and their administration, it is apprehended, but indifferently understood, still the numerous instances on record, in which they have been successfully employed, leave no room to doubt that their more general use upon the station is most urgently required. In the 'North Star,' for example, twenty men and one officer were employed on boat duties at Sierra Leone; they all took wine and bark, with the exception of the officer; he was the only person who suffered an attack of fever. Two boats were detached from the 'Hydra,' in the year 1844, to examine the Sherbro river; the whole of the men were supplied with bark and wine, and not one of them was taken ill, while the whole of the gig's crew, with the exception of the captain, who were similarly exposed for two days only, without being supplied with either, contracted fever of a dangerous character. Facts like these are not to be mistaken; the previous pages of this report contain many others of nearly equal value. Moreover, it seems but reasonable to suppose that if bark and quinine have the power of averting a paroxysm of ague, consequent on marsh effluvium, they will also have the power of averting an attack of remittent fever, the result of the same cause; although there may be conditions of the body in which their effects are rendered nugatory by others, the result of some more powerful contingent circumstance, such as extreme physical prostration from long-continued muscular or mental exertion, inanition, the depressing passions, cold, or a depraved state of the blood, from causes which are not always obvious.

From previous observations made on the coast, followed by a careful review of the various circumstances connected with exposure on shore and on boat-service, it is firmly believed, that although neither bark nor quinine has the power of preventing the germs of fever from lodging in the system, where they may lie dormant for a period of from fourteen to twenty days, or even longer, nevertheless, from their peculiar antagonistic properties, they most decidedly have the power, in many instances, of preventing their development in pyrexial action. Hence the frequently supposed failure of the medicine is undoubtedly to be attributed to its use not having been persisted in for a sufficiently long time after exposure to the exciting causes—namely, throughout the entire probable period of incubation. It is therefore suggested that it would be advisable not only to administer, daily, one of these febrifuges to men so long as they are exposed to the influence of the land, and the vicissitudes of the weather in open boats, but to continue its use for at least fourteen days after their return on board. As the sulphate of quinine is more certain in its action, infinitely less nauseous than bark, and therefore less objectionable to fastidious people, it should invariably be preferred for exhibition: whether it be given in wine, water, or rum, is of no great consequence; the latter will generally be the most acceptable to seamen, although they will seldom object to it in wine.

Lancet, Sept. 4, 1847, *p.* 259.

4.—*On Disinfecting Substances.*—[A report has lately been drawn up by Dr. S. Smith, Mr. Grainger, and Mr. Toynbee, respecting a certain preparation made by M. Ledoyen, said to be really disinfecting. Its efficacy is said to depend on its power of destroying the odour of sulphuretted hydrogen. Many substances, however, are said to be capable of doing this, such as sulphate of copper, nitrate of copper, chloride of copper, nitrate of lead, &c. &c. The editor of the Dublin Quarterly Journal says on this report,]

There is not a word of evidence in the document before us as to the influence of this solution of nitrate of lead* in curing, or "disinfecting," as they call it, by its vicinity, fever or other infectious diseases.

A disagreeable odour does not constitute infection, although a stink may, under certain circumstances, afford a valuable index to

* This fluid has been examined by Dr. Aldridge, and found to be a solution of nitrate of lead. Sir W. Burnett has introduced the chloride of zinc for similar purposes in the navy.

infection; thus, in the wards of a hospital, if the medical attendant has his sense of smell unpleasantly assailed, it is a signal that ventilation has not been sufficiently attended to, and he can, accordingly, order this neglect to be remedied; but if the caretakers of the ward have at their disposal an agent for conquering this stink, —a liquid, which, upon being poured into the chamber-vessels, or sprinkled on the ward, will remove all unpleasant effluvia,—then the safeguard afforded by the senses becomes nugatory: the unpleasant odour is removed, but the contagious poison continues and accumulates. It is like taking away the beacon, while the rock remains. Such a substance may lessen the trouble of the nightmen and wardsmen, and dissecting-room porters, whose eulogistic testimony to the value of M. Ledoyen's fluid, is published by the House of Commons in the paper before us, but we feel persuaded that its employment would prove very injurious in practice.

Dublin Quarterly Journal, August, 1847, *p.* 166.

5.—*Effluvia Trap.*—A patent has lately been taken out for an apparatus, which is stated to be capable of entirely preventing the escape of noxious effluvia from drains, &c. Its advantages, as represented by Mr. Walker, the patentee, are, that its action cannot be affected by stones or rubbish passing through the grating; that it can scarcely be put out of repair, and that it cannot be stopped by ice. It is also extremely simple in its construction, and by no means expensive. The Commissioners of Sewers of the City of London have caused several of these apparatuses to be put down in various parts of the metropolis.

Medical Gazette, Sept. 10, 1847, *p.* 466.

6.—ON SCURVY.

[Scurvy, formerly so prevalent in this country, seems to have been nearly banished, by the greater amount of fresh vegetables ordinarily used as food: and all observers concur in attributing the recent epidemic partly to a diminution in the supply of potatoes. In some instances, however, the disease seems to have been produced by the want of other articles of diet: thus, in the Perth general prison, where scurvy was very prevalent last year, no other cause can be assigned but the substitution of treacle for milk in the prisoners' diet. DR. CHRISTISON, who, with DR. MACLAGAN, was appointed to examine into the matter, says,]

In the first instance, no other cause can be assigned for the disease. The prisoners were in constant employment. Their minds were never unoccupied. They had a fair amount of daily exercise. They were not exposed to damp The ventilation of the cells might have been better; but it could not have been very bad, when neither Dr. Maclagan nor I noticed anything amiss during an inspection of seven hours and a half one day, and four hours the next. Then the victuals of all sorts were excellent in quality. There were no salt provisions. Fresh succulent vegetables, though not abundant, were not wanting. The very treacle was only negatively wrong, by displacing a more necessary article, and might indeed have suggested itself to some as an antiscorbutic, which it has seemed to be in other circumstances. There is no cause left, therefore, but the withdrawal of the milk.

But in the next place, the restoration of milk arrested the spread of the disease. In the latter part of September and beginning of October, the weakly prisoners were put, by the physician's orders, upon milk morning and evening. On the 19th October, the scurvy continuing to spread, the whole prisoners, by directions of the General Board, were allowed milk at least once a day. After this seven decided, and three suspicious cases commenced, before the 1st of November, and most of them during the first seven days of the interval. About the middle of November, in consequence of the recommendation of Dr. Maclagan and myself, the whole prisoners who had either manifested infirmity of health, or been five months continuously in confinement, were put on the full standard allowance of milk, and four ounces of meat, thrice a week. After that date, no new case of scurvy presented itself in the prison.

Lastly, milk cured the disease without any other antiscorbutic remedy. Much credit is due to Dr. Malcom for his discrimination in regulating the treatment. The outbreak of epidemic scurvy under a liberal saccharo-farinaceous diet, was a new fact in the theory of the disease. But the food was different from that commonly used by the working classes in the general population. Milk was the article most obviously wanting. There was therefore no room for hesitation. The sick were not ordered lemon-juice or oranges, or any more fresh vegetables than they had always got in their broth and soup:—these were in reserve in case of necessity. But in the first instance the prisoners were simply put upon skimmed-milk, morning and evening, instead of treacle; and in the severe cases half a pound of meat was added at dinner-time, or four times a week, or daily, according to the urgency of the symptoms. The effect was unequivocal. At the time when Dr. Maclagan and I inspected the prison, several severe cases were quite convalescent; and there was not a single scorbutic prisoner who did not state (some of them indeed stated of their own accord,) that the symptoms of their disease began to abate a very few days after their diet was altered. Not a few of them were recovering without any farther change than the substitution of milk, and the gradual increase of exercise, as their limbs became capable of sustaining it.

I apprehend, therefore, that little doubt can exist that the want of milk was the main cause of scurvy; and still less, that the restoration of milk cured and arrested it.

The utmost induction which the whole facts will bear is, that a diet too purely saccharo-farinaceous tends to engender scurvy: that it requires the aid, however, of some co-operating cause or causes, hitherto unascertained; that other causes, also not yet ascertained, may counteract its tendency: and that the use of milk will counteract it, even when co-operating causes concur to develope its morbid influence.

The general conclusion to be deduced from all these facts seems to be that no doubt can exist of a tendency to scurvy being engendered by a diet too purely farinaceous, saccharo-farinaceous, or saccharo-farinaceous and fatty; that this tendency cannot be counteracted by even a superabundance of the vegetable nitrogenous principle gluten; but that it may be effectually counteracted by milk, and probably also by other nitrogenized articles of food from the animal world.

This last proposition is opposed to the statements of some systematic authors on scurvy. The most recent English systematic writer, Dr. Budd, in his excellent description of the disease in the Library of Medicine, says, "it is probable that antiscorbutic properties are possessed exclusively by substances of vegetable origin, v. 75." "Antiscorbutic properties reside exclusively in substances of vegetable origin, v. 77." "We have no evidence that milk is antiscorbutic, v. 94." The preceding observations on the contrary seem to show, that, as scurvy may originate in various dietetic errors, so may it be advantageously treated by various dietetic remedies; and that milk is a powerful antiscorbutic when the cause is a too pure farinaceous aliment. These observations, likewise, show that treacle, which ranks among antiscorbutics in most recent works on scurvy, is quite the reverse in certain circumstances, Dr. Budd quotes some remarkable instances of its apparent utility on shipboard, but admits that it has not always proved of service, v. 74. The facts in this paper indicate that it is not an antidote for the scorbutic tendency of a pure farinaceous diet.

In bringing to a conclusion these observations on the tendency of a saccharo-farinaceous diet to engender scurvy, and on the influence of a due admixture of animal food, and especially of milk, in curing the disease, it is necessary to advert briefly to certain other views as to its causes and treatment, in order that the precise object of my remarks may not be misconstrued.

1. In the first place, then, it must be acknowledged, that, notwithstanding the evident influence of deficient animal food in the great majority of cases of scurvy which have lately appeared in and around Edinburgh, a few cases have also occurred in which either meat, or milk, or both, have been taken apparently in adequate quantity. Such cases are more rare than they may seem at first sight. For I have again and again found that, through unwillingness to acknowledge the state of abject poverty to which they had been reduced, patients have at first misrepresented the nature of their food; or it has turned out that the food, though varied in kind and variety, was much too scanty for their occupation. But still, I have myself met with one or two cases, and a few others have been reported to me by my friends, in which fresh meat

seemed to have been taken in adequate quantity, and even milk also, though that more rarely, and the only ordinary article of food wanting was fresh vegetables.

2. But, in the next place, even the want of fresh vegetables could not always be assigned as the sole cause of scurvy in these cases. For in several instances of the kind succulent vegetables had not been used for several years; so that there had been no appreciable difference in diet during last winter. I have seen three cases of this nature in persons in easy circumstances, who for three or four years past had lived, on account of stomach-complaints, in a great measure on meat, fish, bread, tea and coffee, without potatoes or other succulent vegetables; and yet they did not suffer until the present year.

The same remarkable fact has been also observed with regard to some of the cases in which the diet had been saccharo-farinaceous and fatty; one of the worst cases I have seen, is that of a gentleman, whose food consisted all winter of three meals daily of tea, bread and butter, with an egg twice a week. But he had lived on nearly the same kind of food without injury for two previous winters, one of which he spent in Paris. It can scarcely admit of a doubt, that in previous years many other persons must have used continuously, for long periods, the same kind of diet under which scurvy has originated lately; and nevertheless, the disease has either never occurred at all, or so very seldom at least, as to have been unknown to the medical profession in and around Edinburgh, until the latter part of last autumn.

3. There is evidently, therefore, some other cause which has co-operated with faulty diet, in producing so many cases of scurvy for some months past in this neighbourhood. And after considering the question on all sides, no other mode will appear adequate to account for the facts, except the assumption of some particular "epidemic constitution."

4. Under the influence of some such concurring cause, the disease has originated in this neighbourhood in sundry faulty systems of diet; first, and most obviously, in a too pure farinaceous, saccharo-farinaceous, or saccharo-farinaceous and fatty diet; secondly, in what is practically called a dry mixed diet, consisting, that is to say, chiefly of bread, fresh meat, tea, coffee, and butter; thirdly, in a more varied diet, in which the preceding articles have been combined with milk, but without the total nutriment having been adequate; and lastly, but very rarely, under the same varied diet, taken in sufficient quantity, and where the only remarkable peculiarity was the want of succulent vegetables. Every one of the few cases of the last description, which I have had an opportunity of inquiring into particularly, has occurred in persons shaken by infirmities of one kind or another, and especially by dyspeptic complaints.

These are the dietetic circumstances which have come under my observation as connected with the present epidemic scurvy. But there can be no doubt that it has arisen under other dietetic errors also; and probably any of the dietetic causes adverted to in the former part of this paper is adequate to engender it.

5. Lastly, as various errors in diet may occasion scurvy, so may it be treated by sundry dietetic remedies. In regard to milk, the importance of which has been dwelt on more particularly than any other remedy in these observations, it appears adequate singly to cure many cases originating in a saccharo-farinaceous food, destitute of animal nutriment. But, to prevent misconception, I must observe that, except in the instance of some of the Perth prisoners, treated by Dr. Malcom, milk has seldom been trusted to singly in the cases which form the subject of this paper; and that, in all my hospital cases and others in Edinburgh, fresh meat at least has been conjoined with it.—Farther, although I am persuaded that very many cases, originating in the same dietetic cause, may be cured, as most of those under my care have been, by simply substituting milk and fresh meat for part of the farinaceous food, I by no means insist that all cases of the kind may be so cured. I have not myself failed in a single instance in which this method of treatment was employed; but I have seen enough to allow that the conjunction of farther means, such as succulent vegetables, lemon-juice, oranges, and malt liquors may accelerate the cure; and I have been assured by others of some cases having occurred to them in which milk and meat alone failed to bring about recovery.—Still less am I disposed to argue that scurvy, originated in a too farinaceous diet, may not be cured without milk and fresh meat. On the contrary, it is quite possible that, by adding to the farinaceous food, potatoes, or saccharo-mucilaginous roots, or any succulent articles of vegetable food which abound in albumen, a cure may be effected without animal food, if they are given in considerable quantity. But at the same time it seems by no means impossible that, when scurvy originates in a too pure farinaceous diet, these antiscorbutic vegetables are less useful taken alone, than when conjoined with a due proportion of animal food, and especially of milk.—Least of all would I maintain, that milk is an antiscorbutic in all circumstances. Dr. Malcom's experience in the Perth prison, followed by further observation on an extensive scale in Edinburgh, proves that it is a powerful antiscorbutic, when the disease originates in a want of animal food. But it is most probably of no use in the opposite case, when the food abounds too much in animal nutriment. This is the general doctrine [Budd on Scurvy, *ut supra*] and I have not met with any facts which call it in question.

Monthly Journal of Medical Science, July 1847, *p.* 18.

[At a meeting of the Edinburgh Medico-Chirurgical Society, after Dr. Christison's paper on scurvy had been read, Dr. PATERSON remarked that sufficient stress had not been laid on the absence of potatoes, as a cause of the epidemic. It was at least a curious coincidence that scurvy should occur just when potatoes were scarce.]

Monthly Journal of Medical Science, June, 1847, *p.* 935.

[Dr. Ritchie also considers that a want of fresh succulent vegetables, occasioned by the severe winter, and the high price of milk and other dairy produce, which put it beyond the reach of the poor, were very important causes of the epidemic. He observes,]

I believe that the errors in diet which have been stated, and the want, in particular, of proper vegetable food, were the true exciting causes; and that cold and other debilitating agents operated often as the predisposing causes of the disease.

Proximate Nature.—The essential principle in the proximate nature of this malady appeared to be diminished vital power; the immediate cause of which was probably the deterioration, as its earliest general effects were the irregular distribution, and, also, the transudation of the blood, or of either its serum or its globules. The external phenomena, again, to which these gave rise were general tegumentary anæmia, œdema, sometimes ansarca, and local congestions; while the character of these latter varied according to different accidental circumstances. Thus parts, the vitality of which is relatively low, as the adjacency of old wounds, and the skin on the inferior extremities; or which are exposed from position or function to pressure or other similar influence, as the soft parts of the extremities, the gums, the lungs, or bowels were the first to manifest the disposition to hemorrhage, and also, on the exposure of the patient to cold, to assume a cachectic type of inflammation. This inflammation, again, though in its generic nature unhealthy, exhibited various specialities, according to the tissue in which it was situated. Thus, when it affected serous and fibrous structures, a low kind of rheumatic inflammation was set up—fibrine and serum were effused, and, according to the locality involved, we had a pleuritic effusion, a synovitis, deep-seated neuralgic pains in the bones, or distended and impacted fasciæ of some of the limbs. When the superficial cellular texture, again, was its site, the inflammation assumed a low form of the suppurative, and gave rise to furunculi; while, when it laid hold on the mucous tissues, an unhealthy erysipelatous action was induced, by which sometimes the epithelium or cuticle might be seen elevated by bloody serum, into blebs, or the pilous or mucous follicles be converted into papules sometimes scarlet, at others, purple coloured, and often, if on the cutis, passing into desquamation, or, when situated in the mouth and throat, or in the intestines, running into ulceration. There were two chemical analyses only made of the blood, and neither were very complete, but both of them, so far as they went, and the microscopical examination also of the same fluid, as well as the general features of the affection, indicated a generic affinity with those numerous species of cachexia, originating in various manners, the character of which consists, as a rule, in a diminution of the red corpuscles, and of the fibrine, with augmentation of the water, and often of the colouring matter of the serum; but which in exceptional cases, exhibit a relative, or even, when complicated with local inflammations, an *absolute increase* in the quantity of the fibrine of the blood.

On reviewing the epidemic in the aggregate. the occurrence of the disease in distinct groups connot be mistaken. One variety distinguished by anæmia, emaciation, diarrhœa, dejections of fluid blood, dropsy, the circulation little affected, and the more distinctive symptoms of scorbutus wanting. A second by anæmia, often by diarrhœa, rapidity of the pulse, epigastric pain or oppression, great general distress, an urticated crimson efflorescence on the skin, petechiæ and hemorrhages. A third by pains, most commonly along the course of the nerves, but at others, situated in a bed of muscle as the gluteal; the cases having a close resemblance sometimes to general rheumatism, and, at others, to ischias nervosa, morbus coxarius, or disease of the knee joint; their true nature being manifested by the sponginess of the gums, a perhaps slight ecchymosis only, the inefficiency of ordinary treatment, and the good effects of a full diet. And, lastly, the more ordinary form, in which affected gums and legs were the prominent symptoms. These subdivisions of the complaint had a conspicuous generic community with one another in their history, exciting cause, general aspects, and indications of treatment; but they appear to have arisen, each of them, under some distinctive combination of circumstances from which they had derived equally remarkable specialities.

Another fact which will not fail to attract notice on such a retrospect is, that cases of each variety of the disease appeared having the more peculiar and characteristic symptoms of some other of the forms associated with those of their own. Thus there are instances recorded in the journals of our wards in which the extreme chachexia of the first form, the hemorrhages and disturbed circulation of the second, or the pains of the third, were united in different degrees with more or less of the massive crural swelling, and muscular agglutination of the fourth.

The evidence on this head has seemed to me to be conclusive in regard to the identity of proximate nature in all the forms. Spanæmia,—thinness or poverty of blood, is their universal, and, I think, essential character, and although a measure of inflammatory action is often seen in the rheumatic and more purely scorbutic species, and sometimes also in the hemorrhagic, sufficient to cause them to tolerate bloodletting, if not even on rare occasions to require it at least locally, this is nothing more than what happens often in other forms of spanæmia, such as the complications of chronic albuminuria, and of typhus and other adynamic fevers.

Purpura hæmorrhagica, for example, is thus essentially a spanæmia,—sometimes, even, it is also an anæmia; yet in insulated cases the congestion or inflammation of some organ, as of the liver, does give a character to the constitution of the blood, and to the symptoms and appropriate treatment, which is at variance with the generic nature of the affection. In the necropsies of some such cases, the aorta has been found filled with a fibrinous cord; but the same fact holds good in multiplied instances of typhus. A cause of confusion on this subject, seems to be a supposition that purpura hæmorrhagica is always the same disease. It seems to me more correct to regard it as a symptom, or congeries of symptoms, rather than as itself a disease; and it is certain that it is developed in such different circumstances, and from such opposite causes, as to materially affect the important significance of its appearance. Thus, in one it is intra-uterine and congenital; in another, it does not appear till early childhood, but is mixed up with circumstances which characterise it as hereditary; and in both such there may be, for any thing which is at present known, disorder both of the solids and of the blood. In other instances the sanguineous effusions are more clearly the external sign only of the impoverished state of the blood, which has proceeded from a grave and protracted dietetical error, aided in some individual examples by the parallel influences of pregnancy and lactation; and, in another class, they are effects of the depressing agency on the vital powers of habitual exposure to a vitiated atmosphere, or to this, united with cold and damp. The gradual alterations set up in the constitution of the blood, by frequent blood-letting, or by hemorrhoidal or uterine discharges,—or yet again in albumenuria, or even in phthisis pulmonalis, or in the latter stages of different fevers,—do all terminate in spanæmia, and have each, either individually or conjointly, produced the development of purpura. The hemorrhagic effusions occurring in some as necessary and inevitable effects of the extreme rarity of the blood, produced by the more or less lengthened application of one or more of the exciting causes mentioned; and in others, as the sudden consequence of the accidental addition, in a spanæmic constitution, of an intercurrent cause, such as a blood-letting, a paroxysm of anger, or the setting up of constitutional excitement, by the scarlatinous, variolous, or other animal poisons, or even by such lesions, sometimes, as excite inflammation.

I apprehend that this distinction between the generic or simple constitution of purpura hæmorrhagica, and the specific complications of individual examples of it, is the real point of interest in the consideration of its pathology and treatment. In many cases, there is nothing present but a sense of lassitude, with circumscribed extravasations of fluid blood into the dermoid and areolar tissues; and in such the pathological condition is one simply of spanæmia, which will disappear with the removal of its exciting cause. In another series, nausea, bilious dejections from the stomach and bowels, acute epigastric pain, fever, tegumentary anæmia, and intestinal or other hemorrhages, are superadded; and in such cases the liver, sometimes the spleen and kidneys, and at others, the mucous surface of the intestines, or all these organs together, are found in some red and congested merely; but in others, more or less pulpy, and, when there have been profuse discharges of blood, also anæmic. These are examples of the congestive or collapsing form of the affection, which, like their analogues in scarlatina, typhus, and erysipelas, prove so often fatal, but which ought, nevertheless, to be met by the same general principles of treatment which are suited for those.

[As to treatment, Dr. Ritchie says,]

In the first form of the epidemic, the successful treatment of the cases was very hopeless. They were the product of long deprivation of adequate food and clothing, and not only resisted curative means, but were often injured by them. The most suitable diet was one of milk, with the addition of some light farinaceous substance, of one or two eggs daily, or a small quantity of wine. After a day or two's use of some such food, it was not uncommon to find fever kindled up; and, should a more stimulating diet have been employed, severe diarrhœa The former effect was attempted to be removed by restricting the patients to weak tea and toast, or panada; and the latter by varied remedies. When the diarrhœa was more simple, a couple of ounces of the dried root of *tormentilla erecta* boiled slowly in two pints of milk and one of *aqua calcis* to a pint, was used daily. In similar cases the *infusum hæmatoxyli* alone, or having the tormentilla added, was employed; and along with these as much even as three grains of the sulphate of iron every four hours, was given with some aromatic, in a few instances with marked benefit; and in some other cases five or more grains of the sulphate of zinc three times daily, effected at least a diminution of the purging. In many patients with or without bloody stools, the sugar of lead to the extent of about a scruple daily, was given for sometimes a couple of weeks continuously, without any bad effect or manifestation on the gums; and, in general, also with only limited good effect. The various preparations of catechu, kino, and opium, were also used, but the latter sparingly, as stupor was induced by even small doses. In all the cases, the tendency to congestion of the organs was sought to be obviated by the use of flannel coverings; warm fomentations, hot mustard pediluvia, and on a few occasions, by the short application of blisters to the abdomen. When acute hemicrania, threatening as was believed, some effusion on the brain, presented, blisters were used; when dulness on percussion, thoracic pain, or dyspnœa seemed to indicate congestion in the lungs, dry, and in rare cases, moist cupping, and sinapisms were employed; and when the most prominent symptom was dropsy without any bowel affection, very striking amendment ensued on recourse being had to stimulating diuretics, as gin and squill, with a nutritious diet, and bandages to the limbs and abdomen.

In regard to the treatment of the second form of the epidemic, or the more purely hemorrhagic febrile variety, I can say little. I had three cases only under my own treatment which could be held to belong to this category. One was the congestive case of the girl Roger just related; and in her I sought to relieve the internal organs by determining to the surface, and by supporting the action of the heart; while I attempted the arrest of the hemorrhage by lead, turpentine, and the tampon. Another is still in the infirmary, but I trust out of danger. She was brought in about four weeks since in a state of extreme prostration of the strength, great rapidity of the circulation, acute epigastric and articular pains, constipation, spongy gums, with numerous petechiæ on legs, and œdema. She had warm fomentations, four ounces of wine daily, a couple of ounces of lemon-juice every eight hours, and a milk diet. The third is a boy, also still under treatment, although nearly fit for dismissal, who came in about three weeks since with sunken dejected countenance, inability to remain erect, a pulse of about ninety, bleeding gums, pains in limbs, and some petechiæ and ecchymoses. His recovery has gone on steadily with no other treatment than rest in bed, and the usual diet of the scorbutic patients.

In reference to the curative means employed in the third or rheumatic form of the scorbutus, they were also sometimes restricted successfully to mere regimen and rest. These were experimental cases, but in others, warm fomentations, and when the pains were not acute, warm frictions of camphorated oil were applied. Frequently the detraction of blood from the parts, and the use of repeated blisters were necessary; and, often, these were conjoined with quinine, cod-liver oil, anodynes, and a full vegetable and animal diet.

The remedial management of the fourth and most frequent species, or that with debility, contracted, swollen, and painful limbs, ecchymoses, and hemorrhages, has been more varied than that of any of the former.

Many of these patients were allowed a diet consisting of 8 ounces of oatmeal made into porridge, and taken with 14 ounces of unskimmed milk at twice, as breakfast and supper, or a corresponding quantity of sowins; and for dinner, 12 ounces of animal broth, made with vegetables, 4 ounces of fresh meat, and 2 ounces of turnips or carrots. Besides these edibles, each patient had an orange, and a pint of porter daily, and either 2 scruples of crystallized citric acid, or 2 ounces of lemon juice, and half drachm of nitre every eight hours. To this general treatment was added, constant fomentation of the affected parts with thick pieces of wet hot flannel, covered over with thin wax cloth; and, so soon as the parts would bear it, the deep tissues of the limb were shampooed for half an hour, or more, twice daily in hot water, or with warm camphorated oil, and the contracted parts attempted to be methodically stretched and exercised. Sometimes the simple fomentation was exchanged for one of a solution of *murias ammoniæ*; and frequently it became necessary to apply leeches for the removal of pain. Under this plan, some recovered in two weeks, more in three, and all (except one with pulmonary complications, and another with great contraction of the tendo Achillis, who is likely to take a couple of weeks longer,) within the month.

Another group had a diet consisting of 48 ounces of unskimmed milk, 8 ounces of oatmeal made into porridge, and 24 ounces of wheaten bread made into panada, and one or sometimes two eggs daily. Such as were feeble or losing blood, had four ounces of wine, and all, except one or two, were allowed citric acid or lemon-juice, and also local treatment similar to what has been described above.

The dismissals here took place from the twenty-first to the thirtieth day. The patients all experienced an agreeable change in their feelings by the end of the first week, but about the third or fourth week they became stationary, and often required a fuller diet from the end of the first fortnight.

A third proportion of the patients had food of a different kind. It occurred to me, that could a dietary be constructed, which would at once be so economical, that the worst paid of the working classes could reach it, and so constituted, that scurvy patients would recover under it, it might reasonably be expected that by its general adoption in future seasons, when neither fresh vegetables nor milk could be had, that the production of the disease might be prevented. Accordingly, a scale of diet was arranged of 4 ounces of oatmeal made into porridge, 4 ounces of peasemeal made into brose, and taken along with 4 ounces of wheat bread, 4 ounces of skimmed milk cheese, and 12 ounces of new milk, or, for three days in the week, 1 ounce of butter, or 1 ounce of molasses for breakfast and supper; while dinner was made to consist of 4 ounces of toasted cheese, alternately the half of the week, with 6 or 8 ounces of fresh haddocks, and a daily allowance of 16 ounces of wheat bread, one pound to one pound and a-half of boiled cabbage, 2 ounces of vinegar, half an ounce of syrup, and a little salt. Some had 3 ounces of fresh butcher's meat twice a-week as an addition. Under this treatment some patients were dismissed well in fourteen days; others, in three weeks, and none have yet exceeded the month; and presuming that *sour-croute*, having an aromatic as ginger added to it, and eaten warm, would prove an efficient substitute for the fresh vegetables here employed; and, also, that the condition of actual disease from which our patients were recovered, is a fair equivalent for the waste of alimentary matter occasioned by the exertion of persons in health, it seems to me that some such dietary might in a future emergency be recommended to the working classes with every prospect of advantage.

Monthly Journal of Medical Science, August, 1847, *p.* 76.

[A knowledge of the cause of this disease, is the most important step in determining its treatment: Dr. Curran, of Dublin, discusses this subject at considerable length. First mentioning several circumstances which have been assigned as causes of scurvy, but in his opinion incorrectly, he thus speaks of]

Sea Air.—No one in the least acquainted with the literature of the subject can tolerate for a moment the names, so commonly employed, of *land* and *sea* scurvy. It would be quite as pathological to talk of land and sea pleurisy, or metropolitan and rural fever. Scurvy was first met with on land, and in persons living exclusively on *fresh* fish, viz., in the army of Louis IX., in Egypt, A. D. 1260; and almost all the earliest, and by far the most virulent, epidemics of scurvy,—as that affecting the French in Newfoundland, the besieged in Breda, the Russians at Wiburg and Cronstadt, &c.,—were observed far inland, and in persons quite unconcerned with nautical affairs. The disease was formerly endemic in England, Holland, and most of the northern countries. Scurvy is neither more severe on board ship than on land, nor does it there present the slightest peculiarity in its course or symptoms, so far, at least, as can be learned from the descriptions of authors. There is, therefore, no such thing as *land* or *sea* scurvy.

Salt.—Salted food having formed the principal, or exclusive diet of the soldiers and sailors who were the earliest victims of scurvy, the disease was soon ascribed to an excess of salt in the system, and this popular error is still excèedingly current in the public mind. That the notion is altogether without foundation is, however, very easily shewn. Anson's crew, six weeks after leaving Mexico, were attacked with scurvy, though living exclusively on fresh provisions; the same was the case, in 1720, with the German army in Hungary and Piedmont. The peasants about Dresden, who live on pulse alone, are very subject to it; and scurvy commits great ravages among the inhabitants of the Alps, when compelled by bad harvests to live exclusively on roots. Again, in 1736, it cut off, at Azoff, many thousand Russians, who were subsisting chiefly on fresh fish, caught in the River Don, and which they ate but half-cooked. The same thing happened at the siege of St. Anne; and many other instances are to be found in the older writers. But, to come to more recent times, we have scurvy raging among the British troops in India, the inmates of the Milbank Penitentiary, the prisoners of war in Portchester Castle and Norman Crosse, and lastly, at the present moment, in all parts of Ireland, as well as in very many in Great Britain: with the most different dietaries, both as to amount and quality, but all agreeing in this,—the almost total exclusion of salt food of any kind. Salt, then, is not *the* cause of scurvy; nay, upon a thorough investigation of the subject, shall we not hesitate to say, that it is even *a* cause of that disease, since Lind gave it in large doses to scorbutic patients without the least apparent injury.

Luxury.—Willis, the celebrated anatomist, ascribed the prevalence of scurvy in his time to the increased consumption of sugar; Maynwartinge, to the use of tobacco and excessive venery; Harvey, to gluttony and debauchery, &c. All these, however, and many other crude notions of a like kind, are quite unworthy of a serious refutation, since a sufficient answer to them all is afforded by the prevalence of scurvy in Ireland at the present time.

Want of Milk.—The value of milk is unquestionable, but its powers in combating disease are very limited; and although Dr. Prout, with some shadow of reason, makes it the *beau ideal* of human nourishment, it is to most stomachs of grown men by no means a very digestible substance. Dr. Christison, of Edinburgh, in a very interesting paper on the subject, ascribes the recent prevalence of scurvy at Perth to the want of milk, and asserts his belief in milk being an antidote for the disease. Unhappily, however, the literature of scurvy affords many instances of the utter inefficacy of milk to protect from that disease, but our own experience on this head is quite sufficient. All the patients (with but four or five exceptions) in the North and South Union Hospitals of Dublin had been in the Poor-House for periods varying from six months to five years, and for at least six months had been using the following dietaries:—South Union, seven ounces of oatmeal in porridge, with half a pint of milk, for breakfast; eight ounces of bread, with half a pint of milk, for dinner,—under this regimen four cases occurred. The other seven attacked in the house had been on the diet of the infirm, which is as follows; eight ounces of bread, with one pint of milk, for breakfast; and for dinner the same quantity of bread with half a pint of milk; three of these were receiving, in addition, on account of their feebleness, half a pound of mutton and half a pint of porter. In the North Union, the patients, when attacked, were using for breakfast one quart of porridge (containing seven ounces of oatmeal,) with half a pint of milk; for dinner, three quarters of a pound of bread, with half a pint of milk, the bread used at dinner being replaced on Tuesdays and Fridays by one quart of boiled rice; about a dozen were also receiving one pint of tea in addition.

If, however, it be Dr. Christison's intention to maintain that milk but supplies the proteinaceous nutriment wanting in the food, then his argument is answered by the fact, that scurvy appears amongst the Esquimaux, when flesh is most abundant; that it raged most severely in Anson's crew, when flesh-meat, fowl, and fish, all fresh, together with farinacea, were most profusely supplied to them; that it shewed itself in the British army in India and at the Cape; the Russian army on various occasions; the French and German armies, &c.; as well as in a great number of merchant and other vessels,—of which notices will be found scattered through the pages of the Lancet and Medical Gazette, &c.,—when a liberal dietary of farinaceous articles and fresh meat, without any salt provisions, was that which was employed. One of the very worst cases that I saw this year occurred in the wife of a shopkeeper in Camden-street, who, by the advice of a medical man, had been using, for the three months previous, beef-tea with bread and butter for breakfast; roast meat, broth, and bread for dinner; and coffee and bread and butter in the evening; together with Guinness's porter, and wine. She was universally œdematous, had extensive ecchymosis on the lower extremities, and could not close her lips from the exuberance of the vegetations on the gums, whilst fainting was produced by the most trifling exertion. On the other hand, thousands, nay millions, of peasants in the centre and west of Ireland have lived for years exclusively on potatoes, with salt, or some similar condiment, and enjoying the luxury of milk only at rare and distant intervals, or *not at all* (as we have satisfactorily ascertained in very many instances;) yet scurvy was unknown in Ireland until within a very recent period. Dr. Stokes informs me that he, this year, attended four persons in the upper ranks of life who were affected with scurvy, although living on the mixed diet, with wine, &c., common to persons of their class. Drs. O'Ferrall, R. W. Smith, and Price, have had several similar cases. Three patients at Swift's Hospital were under Mr. Cusack's care for scurvy, very well marked, yet the dietary of that admirably managed institution is as follows; breakfast, a pint of tea, six ounces of bread, one ounce of butter; dinner, three-quarters of a pound of beef or mutton, three-quarters of a pound of bread, one pint of soup. (On Tuesdays and Fridays, one pound of bread, one pint of mixed milk, one ounce of butter, one quart of rice pudding.) Supper, eight ounces of bread, one pint new milk; beer, porter, and wine, whenever deemed necessary or desirable. Without referring to many other cases in my own experience, Drs. Seller, Ransford, Patterson, and Taylor of Edinburgh, mention numerous instances of the disease attacking persons in the upper ranks of society. We may, therefore, very safely conclude, that *neither misery, nor the want of milk, flesh, fish, farinacea, nor any combination of these, can be regarded as the cause of scurvy making its appearance.*

[Dr. Curran concludes that scurvy is either an epidemic, like influenza and cholera, arising independently of any known conditions, or it results from some peculiarity of diet or climate, found chiefly in winter. Several facts militate against the epidemic nature of the disease;—such as the exemption of officers in the army and navy, while the men are attacked. Dr. Curran says,]

It appears to me, then, from a very careful consideration of this subject, that the conclusion towards which all the evidence directly leads is this, that, in certain seasons, an "epidemic constitution" (as Sydenham would call it) exists in the air, giving a *tendency* to the development of scurvy, but that other predisposing causes are necessary to its actual outbreak. Now, on examining our list a second time, we find that there are certain hygienic causes which, in almost every individual instance, are noted as having been present, and generally intensely active, viz., humidity, sudden alternations of temperature, inactivity, and moral depression, and, lastly, the absence of fresh succulent vegetables.

[In no single instance of the cases reported, did green vegetables or potatoes form a part of the regular diet. Most of the patients attacked, had been living on bread, and tea or coffee, with the addition, in some cases, of flesh or fish. Thus dietetic error is the principal agent in the production of scurvy; but, it requires, in order to produce its effect, the concurring influence of "epidemic constitution." Dr. Curran remarks:]

The chemical theory of diet, which, originating, as it undoubtedly did, with Fourcroy and Vauquelin, has been so ably extended and improved by Dumas, Boussingault, and Liebig, and many other able men in France and Germany, is one which requires but to be stated to secure for it at once the full and undoubting assent of every intelligent man. So long as life exists, the human body is continually throwing off, in the urine, fæces, sweat, &c., a great number of substances, the amount and nature of most of which cannot materially vary without injury to the economy. Now, if it be necessary that a certain quantity of urea and other salts should be formed and got rid of daily, just as a certain amount of carbonic acid must be formed and discharged daily in the efforts of respiration, it surely requires no argument to shew that either all the elements of the secretions and excretions must be found in sufficient quantity in the food taken, or else the body must undergo a gradual waste. "It will not do to feed the muscles alone, or the cellular tissue, or the secretions; each portion must be nourished in its due proportion, or disease will be the inevitable consequence. It is not enough that food be given containing sufficient nitrogen, together with oxygen, hydrogen, and carbon, to supply the soft organs; but we must also give the necessary quantity of phosphate of lime for the bones, and sulphur and sodium for the bile. All the muscular and albuminous tissues contain sulphur and phosphorus as essential constituents; the brain and nerves contain phosphorus and sodium; the blood has iron in one of its elements. In the adult animal, these various solids and fluids are becoming constantly destroyed under the influence of inspired oxygen; and if health and life are destined to be maintained, they must all be restored in equal proportions to those in which they are thrown off. In the young and growing animal, where the increase is greater than the waste, they must be in still greater quantity, especially as regards lime and iron. We have seen that a young animal requires four times as much lime as is requisite to form bone-earth with the phosphoric acid of its food; and without a sufficient supply of iron, the blood globules cannot be formed. The question of nutrition thus reduces itself to simple algebraic equations: the food of an adult must contain elements equal to the waste; the food of the young must contain elements equal to the waste, *plus* the surplus growth.

[From the experiments made by chemists to ascertain the amount and nature of the animal excreta, we derive the data for determining that food which, while the cheapest, is adequate to support health. In this problem, we must not forget *taste* and digestibility as essential in the object of our search; and we must not in the calculation overlook, as Dr. Christison has done, the *salts* contained in food. Dr. Curran gives on this subject an extract from a recently published work by Dr. Aldridge.]

The chief principle which should guide us in the selection of food for man is exceedingly simple. It is this: to combine a flesh or seed diet with the use of succulent roots, stems, or leaves. The former supplies nitrogen in the proper state of combination; the latter affords the inorganic elements, phosphorus, sulphur, lime, and alkalies, which are just as necessary. The Roman soldiers lived on peas and cresses; the modern Spaniards and Russian sailors use black bread and onions. According to Camden, the ancient Irish existed principally upon mushrooms, shamrocks, water-cresses, and roots. The mushrooms in this system of diet were the chief source of the nitrogen. The Lazzaroni live on coarse bread and potatoes. Now all these modes of alimentation, which have been adopted spontaneously by different and remote nations, are perfectly in accordance with the laws which we have stated, and experience has demonstrated their efficiency.

[In the treatment of this affection, an abundant supply of fresh vegetables is the most important point to be attended to Among the most useful are, leeks, onions, water cresses, sorrel, and the umbelliferæ and cruciferæ generally. Vegetable acids, as contained in lemon and orange juice, rhubarb, sour grapes, crab apples, " gooseberry fool," &c., are of equal advantage. In hospital practice the following mixture may be substituted:—nitre, two drachms: cream of tartar, half an ounce; vinegar, treacle, each two ounces; water, four ounces. Two table spoonfuls thrice a day. Or we may give nitre dissolved in plain water, to the extent of from two to four drachms in the day. Dr. Curran has also prescribed half a drachm of oxalic acid, with a scruple of liquor potassæ in eight ounces of water; an ounce three times a day.]

Dublin Quarterly Journal, August, 1847, *p.* 98.

[Dr. Lonsdale had the care of some very severe cases; the patients could not walk, nor could they chew even soft bread, but their appetites were good. Dr. L. states that—]

They were ordered a pint of beef-tea, a pint of porter, 12 ounces of bread, and the same quantity of milk, *per diem*; also, ʒ i. or ʒ ij. of citric acid or lemon-juice, with 4 oz of infusion of gentian and water as an acid drink. They soaked the bread in the beef-tea, and relished the bitter infusion and acid drink amazingly. The worst cases had two oranges daily. Nothing in medicine has delighted me so much as witnessing the happy effects of this plan of treatment. Four excavators were placed in a ward by themselves, labouring under scurvy in the most severe form. On the third day after admission, these fellows began to speak in a cheerful tone. Hemorrhage from the gums had ceased, the joints were less painful and less swollen, and no fresh ecchymoses had shown themselves. On the sixth day, the gums enabled them to chew, and other ameliorations had gone on *pari passu* with the gums. On the ninth day they were all sitting up, and enabled to walk along the room; on the twelfth they became useful in cleaning the walks; and on the fourteenth day, presented themselves to the committee of the institution, and returned thanks for what one of them, the spokesman of the party, chose to call "a miracle effected on them." The weavers did not make such great progress under the same treatment; from twenty to twenty-six days being required to effect a cure in them. The excavator, who accompanied the fatal case, remained in the house forty days. His diet had been no better than the poorest of our scorbutics, and he was not of the most healthy character.

The average duration of the out-patients to whom an abundant supply of the citric acid and gentian mixture was given. and who dieted as they best could of fresh vegetables. was about twenty-five days. The smallest alteration of diet had a wonderful influence in checking the disease, so that I am not surprised at the accounts given by Lind of a "few pickled cabbages now and then" affording immunity from the disease. Those who obtained oranges advanced most rapidly. So much was I convinced of the value of oranges, that on being called to an excavator who had lost more than three pints of blood by epistaxis in less than three hours, and was reduced to extreme weakness both in body and mind, I prescribed oranges *ad libitum.* Hs was badly nursed, and got weak broth, and little farinaceous food, but his recovery was complete within the twenty days. A woman, less severely affected than the majority, was cured with a shilling's worth, about fifteen oranges! The lightship sailor who came to me on crutches got well on oranges in fourteen days. The agricultural labourer, who could not have raised his head without fainting, was cured with oranges and porter, and citric acid, small quantities of each, in about fifteen days. He was "the miracle" of the district in which he lived, as his friends had given him up for lost.

In the list of treatment adopted by others, I see the mineral and vegetable acids, bark, wine, beef-tea, milk, occasional purgatives and diaphoretics, oranges, potatoes, &c. It is often noted by my obliging friends that the scorbutics only had a few potatoes, or fresh vegetables, or milk, and soon rallied; even a good supply of nettle broth or beer cured slight cases; again and again showing that the slightest change of diet or drink was beneficial, and that in proportion to the nutritious quality of the food along with variety, was the rapidity of the cure.

As vegetables became plentiful, scurvy disappeared from amongst us. I do not hear of fresh cases anywhere in Cumberland at this date (July 9th.)

Conclusion.—On weighing well the circumstances related above, I am led to make the following inferences. 1. That as the vegetable world became more or less blighted, man in common with the higher class of animals suffered, from causes not well understood, but apparently of an epidemic nature, which have deteriorated his condition, and made him the more ready victim to scurvy, fever, &c. 2. That scurvy originates from an error of diet as generally believed,—the occupations, dwellings, &c., sometimes viewed as collateral causes having little or no influence. 3. That a deficiency of potatoes constitutes the chief error of diet, and is the main cause of the present epidemic, whilst the absence of variety and deficient quantity of food hastened the development of scurvy. 4. That the use of milk, as might be anticipated from its proximate principles, lessened the liability to scurvy, but did not prevent its occurrence: its powers in correcting a monotonous diet have been acknowledged in the list of remedial agents.

[Dr. ANDERSON attempts to reconcile the opinion of Dr. Christison that milk is antiscorbutic, with that usually held, by the following hypothesis; remembering that it has been proved that while any debilitating and depressing agency may predispose to scurvy, its essential cause is improper food. He says,] Food appropriate to man must consist of three parts—the nitrogenous, to nourish; the non-nitrogenous, to produce the extra heat required; and a third element, to aid in the assimilation of these. This element is furnished by the various, usually more or less acid, juices contained in vegetables and fruits. In favourable circumstances man may dispense with these, and live in tolerable health, but withal obnoxious to disease; and if he be weakened, as by confinement, or depression, or previous disease; or if the nourishment in the food be moreover scanty, as it was in the case of the prisoners at Perth, scurvy comes on.

All the substances eminent as anti-scorbutics contain more or less acid; and it is proved that the more acid the fruit, as Dr. Trotter found of guavas, the greater is its virtue.

I presume then that these juices and acids act, not by themselves supplying nourishment for the blood, but by in some way promoting the assimilation of the nutritive part of the food; and I would compare their efficacy in scurvy to that of iron in anæmia. The anæmic patient may be fed exceedingly, but he cannot assimilate the nutriment he digests without the aid of a metal which itself can be no pabulum to the blood. And so the scorbutic may eat enormously of flesh, which is blood (Liebig,) yet cannot change it into *his own* blood without the aid of certain vegetable matter; an aid which seems essential, though how it is given no man can tell. Vinegar and nitre, and one or two substances besides, have been found to cure scurvy now and then (by Henderson, &c.), but they have failed at other times. They probably exert in the process of assimilation an agency more or less like that of citric acid, although not so uniform or powerful; and so I suppose that milk may, by means of the *lactic acid* produced while it is digested, and not by means of its casein, effect in some instances the cure of scurvy. If it did so in virtue of the casein it contained, cheese should have the same effect, —a thing I never heard of. And milk, like vinegar and nitre, seems to fail more often than it prospers; for Drs. Curran, Lonsdale, and Ritchie record cases of the disease as having happened in persons making free use of milk.

When the diet is nitrogenous enough, lemon juice will be more useful; but when, as in the Perth prison, it is not so, milk may be the best anti-scorbutic, because it will supply the essential food of the blood, as well as what I may call its condiment. That is, milk alone may, in such a case, be preferable to lemon juice alone; but, no doubt, " both are best."

Why is there sugar in milk? Not to form flesh of course. Not to produce caloric either; butter would serve that purpose well enough. The casein to nourish,—the oil to heat;—is it not possible that the lactine may be intended to promote the assimilation of these by being first changed into lactic acid (as all nurses know it is,) and by then supplying to the infant the want of that vegetable food which he does not receive, and could not digest; for the purpose, in short, of preventing scurvy? Dr. Andrew Buchanan well suggests that the *experimentum crucis* were to try whether *whey* would cure a man of scurvy.

And how do potatoes nourish men so well (*teste* Hibernia) that no other article of food will singly keep them in such health? Mr. Crum had shown (Philosophical Society of Glasgow) that four pounds of potatoes contain about as much albuminous matter as an egg:—the root then affords starch to heat, and nitrogen to nourish; but peas and beans, which do as much, will not serve as man's sole food. They are deficient in the third, the anti-scorbutic element, which Baly has shown to be possessed by the potatoe; hence its surpassing value,—it is *milk for men.*

Dr. Aldridge's theory, it would appear, is, that it is the want of lime and saline matter in the food which causes scurvy. This were remarkable, if true,—because if so, how should pure citric acid cure the malady; and why, in the celebrated historical case of the continental army, did dry herbs, containing of course all their salts, fail to alleviate the scurvy like the fresh plants. But we need not discuss this point; for Dr. Aldridge's theory is not more correct than new. It is simply a *rechauffée* of that which, broached by Dr. Stevens fifteen years ago, was refuted by Dr. Kerr in the Cyclopædia of Practical Medicine (iii. 694.) But as it was possible that Dr. Aldridge might have analysed scorbutic blood before constructing his little work, I searched for his experiments, but in vain. Yet the materials may be found from which to form our judgment: in a paper by M. Fauvel, in the *Archives Générales* (Aout, 1847,) there are recorded some analyses of such blood by the experienced hands of MM. Becquerel and Rodier.

Hence we perceive that in point of *fact* the worst scorbutic blood may contain rather *more* saline matter than the healthy fluid does.

Monthly Journal of Medical Science, Sept. 1847, *p.* 176.

7.—*On the Constitutional Treatment of Scrofula.*—By Dr. W. H. Willshire, Physician to the Infirmary for Children, &c.—[Dr. Willshire thinks the most serviceable agents are iron and quinine. He says,]

The preparations of *iron* are amongst the best agents you can have recourse to in this disease. The results of clinical experience also receive great support from physiological experiments. M. Coster placed a number of dogs, rabbits, &c., under the circumstances most favourable for the development of scrofula. Many of these unfortunate animals were shut up in dungeons without light, or space, or motion, and exposed to a cold, moist atmosphere, by means of wet sponges hung up in the cages. Some of the animals were fed on their ordinary diet, others were fed with food containing iron in the proportion of half an ounce of the sesquioxide to the pound. All the former became ill—the greater part were tuberculous; but not one of the latter afforded a trace of tubercle.

Iron may be given at all ages, but certain forms are more fit for one age than are others. When the child is old enough there is no form better than the sesquioxide; I prefer this form to all others; you can give it in treacle, in doses varying from a teaspoonful to three teaspoonfuls in the day. For very young children I prefer the *vinum ferri*, and this you may give to children at the breast.

Quinine, I remarked, was a very able weapon in strengthening the scrofulous patient. I prefer it generally to the *bark*. In some cases it seems to do more good than anything else, especially in those where there is great loss of appetite, but not evident fever. Care must be taken that too much acid is not used in dissolving it when the intestinal lining membrane is irritable. You will find the addition of the tincture of hyoscyamus or of hemlock very often advisable. I think that this agent, in combination with the *iodide of potash*, is the grand remedy for scrofula. I shall allude to it more fully presently; but I may tell you I have more faith in this combination than in anything else.

Although you will find *iron* and *quinine*, with their combinations, so useful in scrofula, you would be wanting in a still more efficient weapon if you had not *iodine*. This is the grand remedy for struma.

We have now had a little more than a quarter of a century's experience with this agent, and I think that such experience warrants us in believing that the scrofulous disposition or force meets with an antagonistic one in iodine. By the latter, not only are present maladies cured, but future ones are avoided. In using iodine, you of course are not to expect to always overcome everything before you, but you will overcome much that you could not without its most important aid. My experience in its use is great, my belief in its virtues is so also. I have had plenty of children brought to me with bad scrofulous ulceration, which was increasing under the various modes of treatment they had been subjected to; when I gave iodine the sores healed. I have had enlarged cervical glands to treat over and over again, in which cases no iodine had been used, and they remained in spite of every other thing, as hard and as large as ever. When I gave iodine they got well. I have seen chronic skin disease in scrofulous children resist treatment; I have administered iodine, and the skin became clear. I have had children with strumous peritonitis, with disease of the mesenteric glands, successfully treated by it, and chronic hydrocephalus has yielded to its power. Nay, I will go further than this, and say that, however few and far between they have been, I have had recoveries for a time from infantile phthisis, and have warded off the more severe symptoms of that lethean disorder, tuberculous meningitis, by the use of this most valuable drug. I have painted the surface of sores with its alcoholic solution, have rubbed it over joints, brushed it over tonsils, have had many young heads shaved, and then rubbed with its ointment night and morning for months together; in fine, from what I have seen of its power, I regard it as one of the grandest agents of the Pharmacopœia. In this opinion I do not stand alone; many others are as deeply impressed with its power as I am, and no one more so than M. Lugol, who asserts iodine to be possessed of powers as strongly opposed to scrofula as mercury to syphilis. But there are others who regard it with a far more doubtful eye: they see nothing very peculiar in it, believe in no antagonistic or specific virtue of it, and hold other remedies to be quite as effectual.

In many instances you will find that, unless it be combined with *quinine*, or an alkali, your progress will be slow; but, on these being added, improvement of the patient becomes sure. But still you may often give alkalies, iron, quinine, &c., and for a long period, and until iodine is resorted to, amelioration is slow in the extreme, if at all. This proves, in my opinion, the fact that this drug has more power over the constitutional tendency than any other; it somehow combats more ably the abnormal states I have told you about. than does anything else.

I generally prefer giving the *iodide of potassium* to any other form; sometimes I add the iodine itself to the solution. But I find that in children I can continue the former by itself much longer than I can any other state of this drug. You will find that to the youngest children one grain of the iodide in distilled water, sweetened *at the time of administration*, may be given three times a day with safety and advantage. If the child be a year old you may add from 1-10th to 1-8th of a grain of iodine to the solution, if deemed requisite. Your doses will go on increasing up to three grains of the iodide of potassium with 1-3rd of iodine according to age and other circumstances. The vehicle I recommend is distilled water, and the mixture may be sweetened when it is given, not *before*, for decomposition will ensue in a short time. According to some, the iodine and iodide of potassium ought to be given in large quantities of liquid, or else, in all probability, a precipitation of the pure iodine will take place when it comes into contact with the gastric secretions. From small quantities of *vehicle* I have found no inconvenience result; and a small amount for children is a great thing.

I have alluded before to a combination of *quinine* with the iodide of potassium, and this I recommend with the strongest assurances of its value. It is a combination which I can safely say I have seen do wonders in the more chronic cases attended with much debility—I know of nothing like it. The mixture is certainly not *chemically* proper: some iodine is set free, especially if there is much excess of sulphuric acid in the solution. But this does not hinder me from using it, as I know it is valuable, therapeutically considered; in fact, many of the combinations and forms in which iodine is given are not right, *chemically* viewed, but I think in practice they are highly valuable; *water*, for instance, only dissolves 1-7000th of its weight, yet you may give it in this vehicle sweetened with syrup at the time of administration.

For external use I generally employ the compound ointment of the London College, rubbing it over glands, the scalp, &c., undiluted, in the youngest child needing it. Very rarely, indeed, have I found it too strong. When a solution is wanted, I employ the compound tincture, and generally undiluted. I have now and then used a lotion of the iodide of potassium in distilled water, varying from 5 gr. to ʒij. to the ℥j. of water. In particular cases, when you wish to produce much counter-irritation, I recommend the following:—

Dissolve ʒj. of iodine and ʒjss. of the iodide of potassium in ℥ss. of alcohol. This may be painted near the affected part, and vesication will ensue.

With iodine and the ioduretted iodide of potassium, I always find I can answer most indications, and when quinine is added to the iodide, I want no other form of the iodine combinations. But other persons often use the *iodide of iron*, the *proto-iodide*, and the *biniodide of mercury*, the *iodide of lead* externally, and various other forms. For information upon these agents, I must refer you to Pereira, and others.

Some have great faith in the *chlorides of barium* and of *calcium*, as also of *sodium*, and others in *arsenic*, *silver*, and *gold*. I never employ any of these, except here and there *arsenic* in certain cases of chronic skin diseases in the scrofulous child. I do not doubt but that others may do good, but I am so contented with *iodine* that I prefer adhering to its use alone.

Of the *alkalies* and *mineral acids*, and of *hemlock* and other narcotics, all of which have at times been vaunted to the skies, I have nothing particular to say. There of course exists plenty of indications for their especial employment, under different circumstances, but they have no special relations to scrofula, that I am aware of.

There is one agent I must not forget to speak of, viz.:—*cod-liver oil.* This has lately been much praised. I have administered it in about twenty cases, not more, and certainly found benefit from its use. Many persons speak very highly of it indeed; but, after all, I think its reputation will greatly subside. You may begin with a teaspoonful of it three times a-day to young children, gradually increasing it. You may use it endermically also.

Bromine is rising in reputation. *Pepsin* was once used. The *extract of walnut-leaves* is a powerful weapon in the hands of some practitioners, more particularly abroad.

Medical Times, June 12, 1847, *p.* 307.

8.—*On Cod Liver Oil in Struma.*—By Dr. Graves.—Dr. G. corroborates the testimony of those (and, amongst the rest, of Dr. Bennett) who have extolled the use of this medicine in strumous diseases in general. He has seen it do, what he never saw any other remedy effect, i. e., reduce to the natural size amygdalæ that were enlarged from the period of extreme youth. A most remarkable instance was that of a young lady, aged about nineteen, whose amygdalæ were as large as small walnuts, and which were treated without effect for two years, both by iodine internally, and nitrate of silver locally. A three months course of cod liver oil left no trace of the disease behind. Under the influence of this oil, the enlargement of the cervical glands in young persons of a scrofulous habit frequently disappears, and the tendency to the formation of phthisis and the recurrence of strumous hæmoptysis is occasionally overcome. In persons of a consumptive tendency, he considers this a valuable addition to our remedies.

Monthly Journal, June 1847, *p.* 925.

9.—*On the Treatment of Acute Rheumatism.*—By Dr. S. Wright, Physician to the Queen's Hospital, Birmingham.—To regard acute rheumatism in that practical light which relates directly to treatment, there are two leading points for consideration and guidance: these are, *inflammatory action and acidification.* These are the two morbid conditions which specially need correction. To say that either needs it more than the other, would be to make an assumption beyond what our present knowledge would justify, and might open a precedent for exclusive, and, consequently, for bad practice. For it sometimes happens that the inflammatory symptoms run excessively high, and demand immediate measures, not moderate in their energy, to save the patient from sacrifice. This is especially the case in metastasis to any vital organ. Under these circumstances, to be regarding the acid state of the system and its secretions to the exclusion of those more prominent peculiarities of excessive inflammatory action, would be the very height of bad judgment and generalship. But I am of opinion, that if, early in the accession of the disease, the acid state and tendency were corrected, in a great majority of cases there would be little inflammation to call for active management.

In advocating the alkaline treatment of acute rheumatism, I am speaking of no novelty of practice. For years past it has been recommended, but by whom first I do not know. At the same time I think it right to state, that I believe there are few, if any, practitioners who have given it a fairer trial, have trusted more exclusively to it, or have derived better results from it than myself. For six years past I have tried it in every case of rheumatism that has occurred in my dispensary and private practice, and seldom have I been obliged to have recourse to other remedies. I have never, in this space of time, had a case that has terminated fatally, and yet in not one instance have I ordered bleeding from the arm. Leeching and cupping, and these but rarely, have been the extent of my depletive measures. Yet I have had many cases which have equalled, if not exceeded, in severity those which I have seen progress indifferently, or not at all, under the opposite mode of treatment. Yet do not mistake me, and suppose that I am lauding alkalies as specifics in rheumatism. Nothing is further from my intention than to do so: my experience inclines me to the belief, as I have before said, that there is no such thing as specificism in medicine. An agent of this class, you know, should in all cases be infallible: I never met with such a curiosity. All I wish to say and to prove, from my own observation, is, that in the majority of rheumatic cases, alkalies will alone prove curative; and that, when they fail of doing thus much, they will at least supersede the necessity of large doses of more uncertain and more potent remedies.

[In illustration, Dr. Wright relates the case of a woman who had been ten days ill of acute articular rheumatism. Most of the joints were very severely affected: the perspiration and saliva were strongly acid: heart's sounds normal.]

She was ordered toast-water for drink; to have a hot bath containing two ounces of carbonate of soda, at bedtime; and to take the following:—

℞ Sodæ bicarb., ʒij.; mist. camphoræ, ℥viij.; M. ft. mist. cujas cap. coch. larg. duo tertiis horis.

The next day she was slightly better. She fell asleep shortly after having been carried from her bath, and slept for about three hours, which she had not done for more than a week previously.

[On the third day she was sitting up in bed, and continued to improve. A second woman, with similar symptoms, was treated in the same manner, with the soda-baths and alkaline mixture; she also recovered, but after being exposed to a heavy shower, was again attacked with rheumatism in her elbows. Dr. Wright merely ordered her to bathe her elbows thrice daily with hot water containing soda in solution, and in a few days she was quite well.]

I ought to add, that my reason for preferring soda in in these cases is, because I regard it as the natural alkali of the animal system. It is the free alkali of the saliva, the blood, the bile, and the semen. I only use potash when there is abundant lithic deposit in the urine; and this, because the lithate of potash is more soluble than that of soda.

Medical Times, June 5, 1847, p. 286.

10.—*On Subacute and Chronic Rheumatism.*—BY DR. S. WRIGHT, Birmingham.—[Subacute, which is the variety of rheumatism most commonly met with in practice, is not necessarily a *sequela* of the acute form. Dr. Wright observes that]

Acute rheumatism, *per se*, is not a dangerous affection, except in so far as heroic treatment and metastasis may make it so. The former I advise you to guard against; the latter always to be prepared for. Avoid doing too much, whilst the ailment confines itself to superficial parts; do enough, and do not delay it, when secondary inflammation seizes any deep-seated organ. But, as I have said, there is no danger so long as the limbs only are affected; the ailment may be tedious and painful, but it will be little else; good management will lessen both the duration and the degree of the attack.

In the majority of cases acute rheumatism wears itself out, so to speak.

In ninety nine of every hundred cases of subacute rheumatism that you meet with you will find that the ailment exists *per se*, and and has not had acute rheumatism for its precursor.

Subacute rheumatism chiefly seizes upon muscular parts, such as the shoulder, loins, and hips; or parts well supplied with ligaments as the knee, ankle, and wrist. It is more liable than acute rheumatism to affect muscles solely; and is less liable than this to metastasis to internal organs. In its transference from superficial to deep-seated parts, it rarely shows an increase of activity, at least of an inflammatory nature.

Subacute rheumatism, is not a *sequela* of the acute form, as I have said; it differs from this in the absence, or the great mildness, of the sympathetic fever, and in the local affection not furnishing distinctive evidences of inflammation. The parts are swollen, stiff, and painful, but they are not redder than natural; there is rarely an increase, and often a diminution, of heat. This, in an artificial form, generally increases the pain, and hence the ailment has sometimes been denominated "cold rheumatism," to distinguish it from the other, which was called "hot."

In subacute rheumatism there is more or less acidification, but not to the extent observable in the acute variety; but the gastric and hepatic disorder is often much more manifest in the former than in the latter: this, again, is seldom, the other often, hereditary; this never becomes chronic, and generally leaves the patient as he gets older; the other is always prone to recurrence, to chronicity, and to aggravation in old age.

There is an obvious pathological relation between acute and subacute rheumatism; but still there are items which point out their distinctness, the chief of which is, that they do not run into one another.

The treatment of subacute rheumatism is not a matter of difficulty, except in so far as the task is often a tedious one. The indications to be fulfilled are both general and local. The former chiefly consist in improving the alimentary function, correcting the secretions, and imparting tone to the system; the latter in soothing or strengthening, as the case may be, the suffering parts. Let me recal to you some of the examples you have seen.

Mary Ann Hackett, aged fifty-six, was admitted into the hospital on the 5th of November last. She was the subject of rheumatism in a subacute and severe form, which was of about five weeks' duration. She had often suffered from it before. The affected parts were chiefly the shoulders, back, and knees. Her tongue was coated with a yellowish-white fur; appetite bad; bowels costive; urine scanty, and depositing a copious red sediment; saliva acid. She was ordered to put her feet, every night, into hot soda and water, and to take the following:—

℞. Inf. gentianæ comp. ℥viij.; sodæ bicarb., potassæ bicarb., aa. ℈ij.; sp. eth. nit., ʒiij. Misce fiat mist. cujus cap. coch. magna duo ter die. Cap. omni nocte. pil. rhei c. gr. v.

Under this form of treatment she immediately began to improve, and continued to do so, without one untoward symptom, until she was quite well. In this state she left the hospital in nine days after her admission.

[Another woman with lumbago was ordered the same medicine, with the substitution of calumba for gentian on account of irritability of the stomach, and the addition of a compound soap pill every night; and the soda fomentations were applied to the back. She speedily recovered. Again a man with subacute rheumatism in his knees of two months' standing, lithic acid urine, and acid saliva and perspiration, was ordered to have an alkaline bath at bedtime, and the following medicine:—]

℞. Inf. buchu, ℥viij.; liq. potassæ, ʒij.; tinct hyosciami, ʒij. M. ft. mist. cujus capiat. coch. ampla duo ter in dies. Cap. pil. rhei c. gr. v. omni nocte, hora somni.

With this treatment, he steadily improved until the 27th, when we found that he was suffering from synovitis in the left knee. In every other respect he was much better. I had not seen him the day previously, but learned that, on the night preceding this, his knee had become uncovered whilst he was asleep, and exposed to a draught from a window near which he lay. The knee was largely swollen, immoveable, and very painful, and there were evidences of fluid in the joint.

A blister, six inches by five, was ordered to be applied to the knee; the mixture to be continued; and the following pills were substituted for the compound rhubarb:—

℞. Pil. coloc. c., pil. sapon. c. opio, aa. ʒss.; pil. hydrarg., gr. x. Misce in massam, dividendam in pilulas xij. quarum capiat ij. omni nocte.

[The synovitis was not subdued for a fortnight; and then for the swelling, tension, and weakness that remained the following medicines were prescribed:]

℞. Inf. buchu. ℥viij.; liq. potassæ, ʒj.; hydriod. potassæ, ʒss,; sp. eth. nit., ℥iij. M. ft. mist. cap. coch. ampla duo ter die.

℞. Pil. rhei c., ℈ij.; tinct. hyoscy., ℈j. Misce et divide in pil. xij. quarum cap. ij. omni nocte.

The knee was ordered to be well rubbed night and morning, with this liniment:—

℞. Liniment. sapon. comp., ℥ij.; tinct. lyttæ, tinct. opii, aa. ℥ss.; potassæ hydriod., ʒjss.

[Under this treatment he speedily got well.

"Chronic rheumatism is nothing more than a persistent form of subacute," showing little tendency to a crisis, and rarely altogether disappearing. The vitality of the affected parts becomes diminished; they are thicker, colder, and less moveable than natural. The most intractable kind of chronic rheumatism is met with in those who have the rheumatic diathesis, or who are scrofulous, or cachectic; those who have been much exposed to cold and privation, or have suffered from extensive bleeding and mercurialization.]

The treatment of chronic rheumatism is both local and general, and mainly consists in imparting tone and energy to the system and the suffering parts; correcting any undue acidity; mitigating pain by narcotic remedies; and effecting the absorption of any materials that may be foreign to the joints, or unfavourable to their motion.

[As an illustration of the treatment of chronic rheumatism Dr. Wright relates the case of a man named Edward Neile, thirty-one years of age.]

He had served for nine years as a private in the Dragoon Guards. He had enjoyed good health up to thirteen months prior to the date of his admission, when he was thrown by a young restive horse, and his back considerably bruised by the fall. This happened at Exeter, and in the regimental hospital of that place his injury was treated and considerably relieved. When convalescent, he caught a violent cold, and the pain in his back returned with great severity, additionally to which he had severe pains in his shoulders, hips, and knees. He was again treated in the hospital during the period of four months, but with little benefit. His joints, he informed me, were largely swollen, hot, and excessively painful, and the pain in his back was so severe that he could not support himself in the upright position. At the end of four months, the regiment came to Birmingham, and he was in the barrack hospital here, under a fresh surgeon, for upwards of three months, but with little or no improvement. Subsequently the regiment went to Chatham, and he was three months in the general hospital there; but, making no progress, he was dismissed as incurable, and on leaving the regiment, came to Birmingham to see some friends. When he had been here about two months, he was persuaded to come into Queen's Hospital.

When we first saw him, he had a very sunken, careworn look. His appearance was that of a man almost double his age. Face thin and sallow; limbs considerably wasted, except the elbow and knee joints, which were larger than natural, and somewhat tender on pressure. His legs he could not straighten, and said that he had not done so for more than a year; neither could he straighten his back, and the effort of attempting this caused him so much pain that the sweat actually ran down his face. The poor fellow, in fact, was seemingly crippled; he walked with the greatest difficulty, and could not conveniently hobble more than a dozen paces at a time. His pains during the night were so severe that he disturbed the other patients with his groans; and the nurse told us that he often cried bitterly when these pains were upon him. His tongue was pale and furred; appetite very bad; saliva acid; urine depositing a copious red sediment; bowels costive.

He was ordered an alkaline bath at bedtime, to be repeated every third night, and the following medicines:—

℞. Infusi diosmæ crenatæ, ℥viij.; liq. potassæ, ʒj.; hydriod. potassæ, ʒss.; tinct. hyoscy., ʒij. M. ft. mist. cujus cap. coch. larg. duo ter die.

℞. Pil. coloc. c., pil. sapon. c., opio, aa. ʒ ss. misce et divide in xij. quarum cap. ij. omni nocte.

In two or three days from the date of this treatment he began to feel better, and to walk better. He expressed a hope that his leading wish would be gratified—to be reinstated in the army. In a week his improvement was so decided, that I felt inclined to change the opinion I had at first formed, that at best his treatment could be only palliative. When a fortnight had elapsed, we found him going through the different processes of drill, much to the amusement of the other patients. He then told us that, with the exception of pain in his back, he felt as well as he had ever done in his life. He could straighten his knees, and walk well; his appetite and general health were much better; he had scarcely any pains by night or day; his knees and elbows were less swollen; tongue clean; urine natural; bowels open. He was ordered to continue his medicine, to discontinue his baths, and to have applied to his loins an opium plaster, twelve inches by eight.

This was all the treatment the man had, until he had been in the hospital five weeks, when he caught cold one day, and had a slight attack of diarrhœa, but he had no return of his rheumatism. He used to show us his muscular capabilities, in testimony, not only of his improvement, but of his fitness to return to his ambitious position in the dragoons. He was in the hospital two months, and left it, to all intents and purposes, well.

As I have before said, this was one of the worst cases of the kind I ever met with; and certainly its recovery surprised me, as it did the poor fellow, who had often been told that he would never regain the use of his limbs. The alkaline baths did him much service; but I am inclined to attach the chief importance to the hydriodate of potass: this is of vast service in cases of this kind, and the more especially if you combine it with *liquor potassæ.* You may make any tonic infusion the vehicle, but I have a liking for buchu (perhaps because I am accustomed to it,) for, in addition to tonic properties, it also possesses those of a diuretic and diaphoretic.

In all these cases I advise you to push the alkaline treatment, both locally and generally: the hydriodate of potass is of vast service; buchu is a good vehicle, but you may give any other if you like; with old people cascarilla or cusparia is excellent, and the addition of ammonia is often valuable. Tincture of iodine to the joints, or hydriodate of potass ointment, composed of a drachm of the salt to an ounce of cerate, is a good remedy, when there is enlargement of the proper structure, or nodosity. Alkaline fomentations generally do great good; and an opium plaster, where applicable, or tincture of aconite, is valuable in subduing pain. In old people, remember, your plan must be chiefly sustaining and palliative.

Medical Times, June 19, 1847, *p.* 325.

11.—*Tincture of Aconite in Rheumatism.*—By M. Magaud.—[Aconite, in one form or another, has often been used in rheumatism; sometimes the tincture, sometimes the powder, or extract, and at other times aconitina.]

M. Magaud, after a patient trial of the above preparations, gives the preference to the tincture, and exhibits its value in several cases. The subject of the first was a young lady, who was affected with occasional pains in the left arm, which were induced merely by atmospheric vicissitudes, and continued for four or five days in succession. In the month of February these pains declared themselves as usual, but were completely dissipated by the administration of six drops of the tincture.

The second case was an old mail-guard, subject to darting pains in the face and limbs. On the last attack, as he was a robust man, blood was taken from the arm, and six drops of the tincture of aconite were given night and morning; the pains diminished, and disappeared in three days.

The third instance was that of a person affected with chronic rheumatism, occupying the lower limbs, the wrists, and the loins. Tincture of aconite was given in doses of six drops, gradually increased to thirty drops, three times a-day, with perfect success.—*Journ. de Méd de Lyons.*

[The increase of dose to the extent mentioned in the last case, is a practice which cannot but be regarded as extremely hazardous, if, as we doubt not they are, the experiments of Dr. Fleming on the medicinal and physiological action of this potent medicine are to be confided in. It will be seen on reference to his work, that five minims every four hours is an average dose to commence with, and that the increase should take place by single minims. The effect also of this medicine, as was lamentably shewn in Dr. Male's case, is cumulative, so that a patient should always be visited every six or eight hours at least, while taking anything like an active dose.—*Eds. Prov. Med. Journal.*]

Prov. Med. and Surg. Journal, July 14, 1847, *p.* 387.

12.—*Quinine in Articular Rheumatism.*—In France, M. Briquet, M. Guérard, and Professor Fouquier, have employed sulphate of quinine for the treatment of acute articular rheumatism, with the most satisfactory results, the dose varying from ℈j. to ʒj. daily.

Sulphate of quinine can be deprived of its bitterness by being taken in coffee: M. des Vouves, who recommends the method, has found the medicine equally efficient in this form, and asserts that its bitter taste completely disappears.—*Revue Medico-Chirurg.*

Medical Times, April 10, 1847, *p.* 137.

13.—*Oil of Turpentine externally in Rheumatism.*—By M. HERVIEUX.—When essence of turpentine is poured over a surface, its volatilization is not attended with any pain, or with the production of heat; but, when a compress imbibed in the oil is applied to the skin and covered with a waterproof cloth, the result is far different: violent pain follows in a quarter of an hour, and doubtless, if the application was prolonged, vesication might ensue. It is this revulsive action of the essence of turpentine, that M. Hervieux has endeavoured to produce, and which he has found extremely useful for the purpose of dispelling rheumatic pain. In cases of paralysis due to disease of the spinal cord, muscular weakness and pain were also relieved.

Medical Times, June 26, 1847, *p.* 354.

14.—*On the Use of Benzoate of Ammonia, or Potash, in Gout.*—By Dr. E. Seymour, F.R.S., late Physician to St. George's Hospital.

I have used this medicine repeatedly in practice, in cases in which the small joints were red, swelled, and painful, or where fluid matter was deposited in the joint of the great toe soon after the paroxysm commenced, and also in cases where the lithate of soda existed in the joints of the fingers and superficially immediately under the cuticle on the surface of the lower extremities; and my impression certainly is, that it is decidedly useful. It is my impression that the early depositions have been arrested in their progress, and large depositions diminished by the continued use of this medicine. It is a decided diuretic, acting in some cases of dropsy, fully and freely, and is especially adapted to those cases where constant nausea and occasional vomiting render the use of many medicines in the class of diuretics impracticable, and also, where diarrhœa exists, forbid the employment of saline diuretics.

Also I have repeatedly seen, by experiment at the hospital, that in dropsy with albuminous urine the albumen is greatly diminished under the use of the benzoate of ammonia. What is a recommendation also to its use in many of the cases mentioned above is, that it is not disagreeable to the taste.

Medical Gazette, May 14, 1847, *p.* 866.

DISEASES OF THE NERVOUS SYSTEM.

15.—ON HYDROCEPHALUS.

By Dr. C. West, Lecturer on Midwifery at the Middlesex Hospital, &c.

[The first discovery in this disease was that of the accumulation of fluid in the brain. It was then found, first that the amount of fluid found did not always bear the same proportion to the intensity of the symptoms; and, then, that the effusion was the result of inflammatory action. Lastly it was discovered, that in fatal cases, tubercular deposits were almost constantly present in various organs of the body, and very frequently in the membranes of the brain.]

We are thus led to the conclusion, says Dr. West, that inflammation of the brain occurs in early life under two different conditions. It now and then comes on in previously healthy children, but occurs much oftener in connexion with the tuberculous cachexia, or as the result of tubercular deposit in the brain or its membranes. The term encephalitis may be properly used to denote the cases of simple inflammation of the brain, while we may with advantage restrict the term acute hydrocephalus to cases of cerebral inflammation in scrofulous subjects.

It is only within the past 16 or 17 years that attention has been drawn to the importance of another element, besides mere inflammation, in the production of acute hydrocephalus. The peculiar granular appearance which various parts of the membranes of the brain often present in this disease, though noticed many years before, began then to engage the special attention of several French physicians. The conclusion to which we are led by their careful investigation of the subject is, that this appearance is not due to inflammation, as was once supposed, but that it is occasioned by the presence of minute tubercular deposits. These deposits often assume the form of minute, flattened, spherical bodies of the size of a small pin's head, or smaller, and either of a yellowish colour, and rather friable under pressure, or greyish, semi-transparent, and resistant, almost exactly resembling the grey granulations which are sometimes seen in the lungs or pleuræ of phthisical subjects. They are likewise sometimes met with in what would seem to be an earlier stage, when they appear like small opaque spots of a dead white colour, much smaller than a pin's head, and communicating no perceptible roughness to the membrane. This appearance is often observed in the arachnoid covering the cerebellum, and those parts of the base of the brain where the arachnoid is stretched across from one part of the organ to another. The flattened yellowish bodies are most frequently seen in the convexity of the brain, and on either side of the hemispheres. They generally follow the course of the vessels that ramify in the pia mater, and accordingly occupy the sulci between the convolutions, much oftener than their summit. The firm grey bodies are mostly seen about the pons, or imbedded in the pia mater of the neighbourhood of the optic nerves, or projecting from the surface of the membranes that cover the medulla oblongata. They are also often deposited in the arachnoid lining the occipital bone, and are then sometimes collected in considerable numbers around the foramen magnum. These bodies, sometimes of a grey, at other times of a yellow colour, are likewise met with, though less frequently, in the substance of the velum interpositum, or imbedded in the choroid plexuses, and in both of these situations, they are sometimes very abundant.

These bodies, however, do not always retain the appearance of distinct granules, but sometimes on separating two folds of the arachnoid which had seemed to be glued together by an effusion of yellow lymph or concrete pus, we find that the matter which formed these adhesions is not homogenous, but that it consists of an aggregation of minute granular bodies connected together by the lymph or pus in which they are imbedded. This appearance is often met with at the convexity of the brain, and close to the longitudinal fissure, and rather more towards its posterior than its anterior part; a strip of this yellow matter, half an inch long by two or three lines broad, connecting together the two hemispheres of the brain or the two surfaces of the arachnoid. Sometimes two or three deposits of this kind are observed at the convex surface of the brain, but they are generally more extensive at the base of the organ, where they occupy the longitudinal fissure and the fissure of Sylvius, and frequently connect the opposite surfaces of the brain so closely together as to render their separation impossible without injury to its substance.

But you may ask me for the proof of these granular bodies being, as I have represented them to be, real tubercular deposits. It would occupy nearly the whole of this lecture to detail all the arguments that have been adduced on both sides of this question. for it is a question which has been much disputed: some persons being disposed to regard them merely as products of inflammation,

The reasons, which appear to me to be conclusive, in favour of the tubercular nature of these bodies, are—

1st. That they are always associated with tubercle elsewhere.

2nd. That their abundance is not in proportion to the amount of inflammatory mischief.

3rd. That they are sometimes met with in cases where no head symptoms were observed during life, and unconnected with any sign of inflammation discovered after death; and

4th. That their chemical composition and their microscopic structure are identical with those of tubercle in other organs of the body.

The complications of hydrocephalus consist almost entirely in the deposit of tubercle in many organs of the body, and in the various results to which that tubercular deposit may have given rise. The lungs and the bronchial glands are the parts most frequently and most seriously invaded by the tubercular deposit; the spleen, liver, mesenteric glands, and intestines, rank next in frequency as the seat of the tubercle. The complication of hydrocephalus with tuberculous ulceration of the intestines is one which, though not very frequent, must not be lost sight of, since its existence may give rise to diarrhœa, and thus lead to an error of diagnosis, on your part, if you look for constipation of the bowels as an invariable symptom of water in the brain.

Medical Gazette, July 2, 1847, *p*. 1.

The healthy and robust are comparatively seldom attacked by hydrocephalus, and in many instances the indications of declining health precede for weeks or months the real premonitory symptoms of the disease. You may, however, be so much taken up with watching the former as to overlook the latter, or to misinterpret their meaning. Your solicitude is excited by the gradual decay of a child's strength and the wasting of its flesh. You observe that it becomes subject to irregular febrile attacks,—that it coughs a little, —that it loses its appetite,—that its bowels are almost always disordered, and generally constipated,—and that it makes frequent vague complaints of pains in its limbs, or of weariness or headache.

These symptoms, which depend upon that general deposit of tubercle in the different organs of the body which almost every dissection of fatal cases of hydrocephalus reveals, make you apprehensive lest phthisis be about to come on, and you often auscultate the chest in expectation of discovering some signs of disease in the lungs. At length, the child seems worse,—he coughs more, and is more feverish,—grows heavier and more dull, but does not complain more about his head,—or, at most, says that the cough makes his head ache. The parents think that the child must have caught cold, and you do not see the indication of any new disorder; for, though listless and moody, he still moves about in the house, and sometimes plays, though in a spiritless manner. Simple treatment seems to do a little good, and you not unnaturally hope that the aggravation of the symptoms will prove only temporary; but, after an unusually restless night, a fit of convulsions comes on, or the listlessness deepens in the course of a few hours, and without any evident cause, into profound coma, and a very few days terminate the patient's life.

In such a case as this, you would, it is true, most likely be able to do little or nothing, even if you recognised the approach of hydrocephalus from the earliest indications of its coming. But you would save your patient's friends some sorrow, and yourself some reproach, if you discovered the danger at a distance. Now, whenever any child, especially if it be of a consumptive family, has been failing in health for some weeks or months, without evident cause, I advise you to look with some suspicion on the supervention of unusual drowsiness or listlessness, or any aggravation of the cough, for which you cannot find adequate reason in the information afforded by auscultation. A frequent, short, dry cough is not infrequent at the commencement of hydrocephalus; but in cases where cough has existed for some time, you are very likely to refer its aggravation to mischief in the chest, and to lose sight of its possible connection with affection of the brain: inquire, therefore, in every doubtful case, whether there has been any vomiting, for sometimes it is but slight, and occurs only after food has been taken, and then only occasionally, so that it may seem to the parents to be a symptom of little importance. Ascertain the condition of the bowels, watch the pulse most carefully; it may not be irregular or intermittent, but you will probably find a little inequality in the force and duration of its beats: if so, you may be sure that the head is suffering, and if the head suffers in such a patient it is, in ninety-nine cases out of a hundred, from the approach of hydrocephalus. Do not content yourself with seeing your patient once a day, visit him at least morning and evening,—stay some time with him, watch him closely, and see how far he is capable of being amused: but if you be still strangers to that freemasonry, which assures a little child that you love it, you will very likely fail of arriving at the truth.

[The only treatment likely to avail much, is the prophylactic;

and this must be the same as that for phthisis, for when hydrocephalus is threatened, there is usually predisposition to the former disease. As Dr. West judiciously observes,]

In any case where several children of the same family have already died of hydrocephalus, or have shewn a marked tendency to the disease, the mother should for the future abstain from suckling her infants, and they should be brought up by a healthy wet-nurse. Under such circumstances, too, it would be desirable that a child should always live in the country; its clothing should be warm, and flannel should be worn next the skin; its diet should be simple, and any change in it should be made with the greatest caution, while milk should for a long time form one of its chief aliments; and it would be desirable not to wean it until after it had cut four molar teeth, as well as all the incisors. As it grows up, over exertion, either of mind or body, must be most carefully avoided; and on this account, though free exercise in the air is highly beneficial, gymnastic exercises are by no means to be recommended. The child must be watched carefully during the whole period of dentition, and every precaution must be taken to shield it from the contagion of measles, hooping-cough, or scarlatina; since these diseases, which tend to excite tuberculous cachexy, would be likely greatly to aggravate the disposition to hydrocephalus, or even to bring on an attack of the disease.

[Another valuable prophylactic measure is the insertion of an issue in the back of the neck. If the disease has already appeared, we have to rely on three remedies,—depletion, purgatives, and mercury. With regard to the employment of the first, it is sufficient to remember that though the disease is inflammatory, it is inflammation in a *scrofulous* constitution. Purgatives are of great importance; and it is necessary, Dr. West tells us, after free action of the bowels is obtained, to maintain it for several days, by giving small doses every four or six hours. Calomel is to be given *with* the purgative. The *diet* may be low at first, when the febrile symptoms are high; but afterwards we should allow as much of light and unstimulating nutriment as the patient can take.]

Medical Gazette, July 16, 1847, *p.* 89.

[Dr. Willshire says truly that it is only by a decisive effort applied at the commencement, that the progress of this fatal disease can be arrested. The treatment has varied according to the opinions held respecting the nature of the disease: purely antiphlogistic treatment having been adopted by those who believed meningeal and cerebral congestion to be the cause of death; while those who regarded ventricular effusion as the most important pathological character of the disease have employed means both to prevent such effusion, and to lead to its absorption. On the treatment of these cases Dr. Willshire says:]

In modern times, however, a modified treatment has been adopted; for whilst it has been admitted that cerebral or meningeal congestion or inflammation form common elements in the series of phenomena, and have to be treated, yet it has been at the same time affirmed that a still more fundamental element exists, and to which attention has to be directed; and not only this, but that the origin, type, course, and effects of the—in most cases secondary—inflammation are of such a character as to oblige us to view it, in relation to its treatment, in a different manner to what we do inflammation of an ordinary form.

Of course, if a person says, all forms of hydrocephalus are only different varieties of simple inflammation of the membranes of the brain, or of the latter, and must be treated accordingly, I can only say here that such an opinion is a sad mistake.

You must remember you have two elements, if I may so call them, to treat in the disorder:—1st, the scrofulous, which evinces itself by the tubercular deposit, by the softening of the cerebral centres and the ventricular effusion; and the inflammatory, which proves its existence by the vascular congestion, the concrete or gelatini-form exudation, &c. You must also remember that this latter, the inflammation, in one sense, is but an effect of the former: it is scrofulous inflammation, or inflammation of a peculiar character. These three great points must be regarded in your treatment. In one class of cases you will have the former, or the scrofulous element, making way for some time before the inflammatory phase of the disorder presents itself, or in others the latter is never seen at all; in another class, you will have the disease only made known to you by the prominency of the intercurrent inflammation; whilst in a third, you may believe that the latter precedes all the other elements of the disorder. Still this inflammation is soon followed by the tuberculous deposit, &c., and is always of a scrofulous character.

The symptomatic phenomena of every case will be those of irritation and pressure of the nervous centres, variously combined, and each of different degrees of intensity, according to the particular case. These symptoms I have already spoken of.

Now, suppose you are early called to a case in which either you dread the temporary congestion or vascular irritation of the membranes, &c., may be followed by the more marked characteristics of the true disorder, or in which you fear tuberculous exudation has commenced and has given rise to prominent signs of such irritation, you will at once have recourse to those measures which will diminish the vascular excitement: most carefully remembering, however, that the vascular excitement cannot be reduced in the same simple way as you would reduce common inflammation, and this for two reasons—first, it is of a subdued, asthenic, and specific type—in fact, is inflammation or congestion occurring in a scrofulous individual; secondly, the pushing of antiphologistic measures to extremes would only still further incline to the outbreak of the other scrofulous manifestations – the tuberculous exudation, the serous effusion, the softening of the centre. You will have, then, to be careful in subduing the vascular excitement in question. In most cases, unless the child be very weak, very scrofulous-looking, and if you are called early, you are to apply leeches behind the ears; you must dry-cup at the nape of the neck, and purge pretty freely; have the hair cut quite close; prohibit the wearing of caps, &c.; have the child kept in a dark, cool room, with its head raised on a hard pillow, and its feet and legs clothed in worsted socks, and lint dipped in cold water applied to the forehead. You are aware of the obstinate constipation which exists in this disorder, and of the very great difficulty we have in overcoming it. There is also so much sickness, too, that the medicines will be repeatedly rejected. I advise you then, at the same time that you give (by mouth) *aloes* and *sulphate of potash*—for I have found them the best—in properly graduated doses, according to the age, that you have administered injections of *castor-oil* with *turpentine*, and the powders and injections repeated every three or four hours, until several evacuations are obtained. Do not be afraid of the aloes taking too long a time to act, as resinous purgatives are supposed to do: it will act as soon and better than most other things; and you will find the turpentine an admirable derivative from the brain. In some cases you cannot dry-cup behind the neck, it would cause such excitement in the child, and you would do more harm than good; if you cannot, apply mustard poultices there instead.

Suppose, however, that the child, when first seen by you, does not present much evidence of inflammation or congestion; suppose that the symptoms of pressure are the more prominent, that with the symptoms of the first stage there is considerable tendency to sleep or stupor: here you will do no good by leeches, and they may be set aside altogether. But purge freely as before, have the head shaved, and rub in the *iodine ointment* night and morning all over the shaven scalp; put a blister behind each ear, and either dry-cup at the nape, or put mustard cataplasms there, as before recommended, attending, of course, to the same hygienic arrangement, &c., previously mentioned.

Now, the question is, in the early stages of *tuberculous meningitis*, after attending to the counter-irritation, purging, &c., and local depletion when advisable, what else are we to do? Are we not to endeavour to affect the system by some internal remedies, such as *mercury*, *antimony*, *iodine*, &c.? All these, and other things, as I shall soon inform you, have been advised,

What I advise you to do, is to give the child the *iodide of potassium*, and *iodine*, internally, whilst you are rubbing the iodine ointment freely over the scalp. To the youngest child you may give a grain of the iodide with 1-10th of iodine, every three hours. In this severe malady, it is only up to a certain point in its progress, as I have told you, that you can hope to do any good, and this point is the end of the first stage, for as soon as stupor comes on, as soon as the second period is entered, as I have before said, ninety-four cases out of one hundred will pass on to a fatal event. So long, however, as there is only constipation, vomiting, listlessness, and cephalalgia, with heat of head and slight tendency to sleep, you are privileged in looking for a more favourable termination.

On reviewing my notes for what has been the more essential points of treatment in such favourable cases, I am more inclined to place confidence in free purging, by the turpentine injections, and powder of aloes, blistering behind the ears, and the rubbing in of the iodine ointment freely over the shaven scalp.

You may make slight variations, if you like in some of the purging agents. I have used *scammony*, *calomel*, and *rhubarb*, together, with good effect. You may also put a blister, in older children, at the nape of the neck, instead of behind the ears. Internally you may give the nitrate of potash, in full doses, or two grains of calomel with one of ipecacuanha, every two hours, in lieu of the iodine mixture I before spoke of. All these means I have repeatedly tried, but I lay more stress upon the purging, blistering behind the ears, and application to the shaven scalp, than to anything else.

When stupor has come, when the second stage progresses, the above measures are still to be continued, the blisters behind the ears being kept freely open; towards the end of this stage a blister may be applied over the whole head.

Medical Times, August 21st, 1847, p. 504.

On the Treatment of Chronic Hydrocephalus.—By Dr. C. West, Lecturer on Midwifery at the Middlesex Hospital.—[Our treatment of this affection might be directed with much better chance of success, were it possible, as it is not, to determine the seat of the fluid. Whatever that may be, we must begin treatment early; and the best plan, in Dr. West's opinion, is that recommended by Professor Gölis, of Vienna :]

He advises that the head of the child be shorn, or its hair cut close, and that one or two drachms of the mild mercurial ointment be rubbed daily into its scalp. At the same time, the head is to be kept constantly covered with a flannel cap, to prevent the risk of the perspiration being checked by the cold air, and gr. $\frac{1}{4}$, or gr. ss. of calomel, should be given twice a day, unless diarrhœa come on, when the inunction alone must be employed. This plan should be persevered in for thirty or forty days, when, if the patient appear improving, the remedies may be very gradually diminished, but the cap should be still worn even after the inunction has been discontinued. Should no great improvement appear, after a lapse of six or eight weeks, some mild diuretic may be conjoined with the other remedies, and a couple of issues may be inserted in the occiput. For this measure, however, I have always substituted the frequent application of blisters to the back of the neck.

The woollen cap, recommended by Gölis, often seems agreeable to the child, but sometimes I have had to discontinue it, in consequence of the heat of head which it produced. In most cases, too, you will be compelled to resort to occasional leeching, in order to subdue the attacks of heat of head and restlessness, which are exacerbated from time to time, and often attended with other symptoms that threaten the supervention of acute disease.

[A valuable adjunct in some cases, is the plan of bandaging the head to prevent its yielding to the accumulation of fluid, suggested by Mr. Barnard, of Bath. The plasters must be carefully applied, and, says Dr. West,]

You cannot do better than follow M. Trousseau's rules for their application. He uses strips of diachylon plaster about one-third of an inch broad; and applies them:—1st. from each mastoid process to the outer part of the orbit of the opposite side; 2nd. from the hair at the back of the neck along the longitudinal suture to the root of the nose; 3rd. across the whole head, in such a manner that the different strips shall cross each other at the vertex; 4th. a strip is cut long enough to go thrice round the head. Its first turn passes above the eyebrows, above the ears, and a little below the occipital protuberance, so that the ends of all the other strips shall project about one-fourth of an inch below the circular strip. These ends are next to be doubled up on the circular strip, and its remaining two turns are then to be passed over them just in the same direction as the first turn. By this means you secure a firm and equal and very powerful pressure on the head. You must watch the results of this proceeding very carefully, and loosen the plasters if symptoms of compression appear, since it once happened, from neglect of this precaution, that the fluid acted on the base of the skull, detaching the ethmoid bone from its connections, and occasioned the infant's death.

[Dr. West, however, considers Arnott's mode of compressing the head by an air-press, as superior to any other. He also considers puncture of the cranium warrantable under some circumstances, observing,]

I should regard any case as favourable for the operation which on the whole there was good ground for believing to be one of external hydrocephalus, or in which the enlargement of the head had not been attended with indications of active cerebral disease. Though on the whole less promising, I should not reject the operation simply because enlargement of the head had been congenital; while I should always be more ready to operate if nutrition were well performed than if the child were emaciated. I would not, however, as a general rule, have you operate simply because the head is large; for it does not appear that diminution in its size has resulted from the puncture, but only arrest of its enlargement: and if the disease be at a stand-still, and the cerebral functions tolerably well performed, you would risk much with the chance of gaining but very little.

The proper situation for the puncture is the coronal suture, about an inch, or an inch and a half, from the anterior fontanelle. A fine trocar and canula are the best instruments; and care must be taken not merely to withdraw only a very few ounces of fluid at a time, but to keep up pressure both during the escape of the fluid as well as afterwards.

Medical Gazette, August 13, 1847, *p.* 269.

17.—ON HYDROCEPHALOID DISEASE.

By Dr. C. West, Lecturer on Midwifery at the Middlesex Hospital, &c.

[This term was applied by Dr. Marshall Hall to the condition resulting in the brain of a child from a somewhat sudden deprivation of its usual supply of blood, and the symptoms of which often present a striking similarity to those of inflammation of the brain.]

This affection, says Dr. Hall, in his admirable essay on the subject, may be divided into two stages: the first, that of irritability; the second, that of torpor. In the former there appears to be a feeble attempt at reaction; in the latter, the powers appear to be more prostrate. These two stages resemble in many of their symptoms the first and second stages of hydrocephalus respectively.

In the first stage the infant becomes irritable, restless, and feverish; the face flushed, the surface hot, and the pulse frequent; there is an undue sensitiveness of the nerves of feeling, and the little patient starts on being touched, or from any sudden noise; there are sighing and moaning during sleep, and screaming; the bowels are flatulent and loose, and the evacuations are mucous and disordered,

If, through an erroneous notion as to the nature of this affection, nourishment and cordials be not given, or if the diarrhœa continue, either spontaneously, or from the administration of medicine, the exhaustion which ensues is apt to lead to a very different train of symptoms. The countenance becomes pale, and the cheeks cool or cold; the eyelids are half closed; the eyes are unfixed, and unattracted by any object placed before them, the pupils unmoved on the approach of light; the breathing, from being quick, becomes irregular, and effected by sighs; the voice becomes husky, and there is sometimes a husky, teazing cough; and eventually, if the strength of the little patient continue to decline, there is a crepitus or rattling in the breathing; the evacuations are usually green; the feet are apt to be cold.

[In early infancy these symptoms sometimes succeed to premature weaning, especially if that be followed by unsuitable diet; but in older children they generally succeed to some illness either exhausting in itself, or for the cure of which active measures had been used; and especially if in the early stage of this illness considerable cerebral irritation had existed. Infantile diarrhœa is a disease frequently followed by this hydrocephaloid affection. Dr. West tells us,]

It is not long since a previously healthy boy, aged eighteen months, was brought to me suffering from vomiting and diarrhœa which had existed for three days previously. After treatment had been continued for two days the purging ceased, but the child seemed to have a distaste for all nourishment, and refused both milk and arrow-root, and the mother made but few attempts to overcome this repugnance, so that for twenty-four hours the child took hardly anything except water, and barley water, and those in small quantities. On the afternoon of the sixth day the child became faint, and seemed so feeble during the night that the mother became much alarmed, and came again to me on the morning of the seventh day. The child's face was then sunken and very anxious; it lay, as if dozing, with half closed eyes; breathing hurriedly; suddenly waking up from time to time in a state of alarm and restlessness, and then in a few moments subsiding into its former condition. The skin was dry but cool; the extremities were almost cold; the lips were dry and parched, and some sordes had collected about the teeth; the tongue was dry, red, and glazed. and coated in the centre, and towards the root with yellowish fur. The pulse was extremely feeble. There was very great thirst. The bowels had not acted for twelve hours.

I ordered the child a tablespoonful of equal parts of milk and barley water every half hour, with the addition of fifteen drops of brandy every hour, and directed that some strong veal broth should be prepared and given every two hours. At the same time, a draught containing ten grains of aromatic confection, half a drachm of the compound tincture of bark, and six drops of sal volatile, was given every three hours, and a grain of Dover's powder was directed to be taken at bed-time.

Within six hours after the commencement of this treatment the child began to improve; it slept tolerably well in the night, and the next day was lying tranquilly in bed looking about and smiling cheerfully; the extremities were warmer, and the skin had lost its harshness; the tongue was no longer dry, and the pulse had increased in power. The stimulants were gradually withdrawn; no further bad symptom came on, and the child was soon convalescent.

If, in a case of this kind, you fall into the error of regarding the cerebral symptoms as the signs of active disease, and withhold the Dover's powder, or the opiate enema that might have checked the diarrhœa and soothed the irritability, while you apply cold lotions to the head, and give the child nothing more nutritious than barley water in small quantities, because the irritability of the stomach which results from weakness seems to you to be the indication of disease in the brain, the restlessness will before long alternate with coma, and the child will die either comatose or in convulsions.

But it is not only in the course of diarrhœa that errors of this sort may be committed. The early stages of pneumonia are often attended with so much sympathetic disturbance of the brain, as to throw the other symptoms into the back ground. The child vomits, it refers all its suffering to its head, and possibly has an attack of convulsions almost at the outset. You not unnaturally assume the case to be one of cerebral congestion, and treat it accordingly with free local depletion. On the next day the indications of disordered respiration are more apparent; you think your former diagnosis was incorrect, and probably apply more leeches to the chest to combat the pneumonia you had overlooked. The urgency of the symptoms may be relieved by these means, or, if that be not the case, still the reaction will diminish with the diminished power, and the child for a short time seems to suffer less. But soon the restlessness of exhaustion comes on, and then follow the soporose condition and the apparent coma; you condemn yourself for having overlooked the cerebral mischief of which you fancy that you now have most convincing proof: you renew your antiphlogistic measures, to arrest, if it be not too late, this imaginary hydrocephalus, and your patient dies.

Something of the same kind, too, may happen in cases where the brain has really been congested, and where the depletion which you practised somewhat too freely was in reality indicated, though to a smaller amount.

Under no circumstances are mistakes more easily committed, and never are their results more mischievous, than when real congestion of the brain has been somewhat over-treated, and the consequent symptoms of exhaustion are supposed to be those of advancing disease. In such a case, however, it would usually be observed that great faintness had been induced by the first depletion, and that the quiet which succeeded it was that of exhaustion as much as of mitigated suffering. If so, the returning restlessness would probably be the index of the feeble power of the brain, no longer adequate to the performance of its wonted functions, rather than the evidence of active disease of the organ. Nor would the history be the only safeguard from error, but the fontanelle sunk below the level of the cranial bones, instead of being tense and pulsating, the cool surface, and the pulse presenting no other characters than those of frequency and feebleness, would all point to the real nature of the case. You do not need to be told that to deplete under such circumstances would be to destroy your patient—that food is needed, not physic. The sunken powers of life are to be rallied: and as their strength returns, the functions of the brain will again go on harmoniously.

Medical Gazette, Sept. 10th, 1847, p. 439.

18.—ON HYPERTROPHY OF THE BRAIN IN CHILDREN.

By Dr. C. **West**, Lecturer on Midwifery at the Middlesex Hospital, &c.

[The diagnosis of this affection from chronic hydrocephalus, the only disease with which it can easily be confounded, is rather difficult: but as the treatment of the two cases differs, it is important that we should carefully discriminate them. We may do so by following Dr. West who says:]

The history of the patient would afford some help towards determining this question; for the symptoms of chronic hydrocephalus generally come on earlier, and soon grow much more serious, than those of hypertrophy of the brain, and the cerebral disturbance is throughout much more marked in cases of the former than in those of the latter kind. The form and size of the head, too, present peculiarities by which you may often be enabled to distinguish between the two conditions. Both diseases are attended by enlargement of the head, and in both the ossification of the skull is very tardy, but the head does not attain so large a size in hypertrophy of the brain as in chronic hydrocephalus, neither are the fontanelles and sutures so widely open. The skull, likewise, presents some peculiarities in form which are so remarkable as to have attracted the attention of several observers, though I must own that I do not thoroughly understand how they are produced. The head not merely shows no tendency to assume the rounded form characteristic of chronic hydrocephalus, but its enlargement is first apparent at the occiput, and the bulging of the hind head continues throughout especially striking. The forehead may, in the course of time, become prominent and overhanging, but the eye remains deep sunk in its socket, for no change takes place in the direction of the orbitar plates such as is produced by the pressure of fluid within the brain, and which gives to the eye that unnatural prominence, and that peculiar downward direction, which are so striking in cases of chronic hydrocephalus. In hydrocephalus the anterior fontanelle is tense and prominent, owing to the pressure of the fluid within, but when the brain is hypertrophied there is no prominence, but an actual depression in this situation. I have more than once observed this condition in a very remarkable degree, the depression not being limited to the anterior fontanelle, but being observable at all the sutures.

[In adults the dangerous symptoms in these cases of hypertrophy would arise from compression owing to the bony case becoming too small. When it occurs in adults, therefore, the case must be hopeless, even if the nature of the affection could be recognized: in children, however, as the disease is associated with disorder of the nutritive processes generally, we may expect some benefit from judicious attention to the state of the general health. Mercurials and depletion are not generally applicable, though particular symptoms do occasionally indicate their employment. The proper treatment is thus stated by Dr. West:—

I have now and then tried counter-irritation by means of the tartar emetic ointment rubbed into the back of the neck, with much relief to the head symptoms, in the case of children who were suffering from the indications of hypertrophy of the brain, but I should fear to have recourse to this measure in infants. In them, indeed, one of our first efforts must be to relieve the brain from the constant irritation to which it is exposed when the child is in the recumbent posture, and the head rests on the yielding and imperfectly ossified occiput. For this purpose we cannot do better than follow the suggestion of a German physician, Dr. Elsässer, and have a small horsehair cushion prepared for the child's head to rest on, a piece being cut out of it large enough to receive the occiput. In cases both of hypertrophy of the brain and of chronic hydrocephalus, I have seen the adoption of this simple contrivance followed by almost immediate cessation of the rotatory movement of the head, and by quiet sleep in its cot, to which perhaps for weeks before the child had been a stranger.

It is not desirable that a child who suffers from this affection should sleep entirely without covering to the head. The profuse perspiration of the head is more effectually checked by a thin linen cap which may be changed once or twice in the night, while at the same time the child is saved from the danger of catching cold.

While these hygienic proceedings which have especial reference to the head are attended to, the child should be daily sponged with salt and water, or with sea water, if it were possible to remove it to some place on the coast, such as Brighton; or it would probably be benefited by immersion in a tan-bath, in which it should remain for several minutes.*

The remedies under the continued use of which I have seen the most good result are the extract of bark, from which you might pass to the preparations of iron—such as the vinum ferri, or that very elegant syrup of ferro-citrate of quinine, prepared by Mr. Bullock, of Conduit-street. I have not made much trial of the iodide of potassium, since in all the cases that I have seen some more decided tonic appeared necessary. I have, however, given the syrup of the iodide of iron sometimes with advantage, and, in cases where the tendency to rickets was well marked, I have observed a most decided improvement follow the use of the cod-liver oil, in doses of a drachm twice a-day for a child of three years old. I may just mention, that notwithstanding its nauseous taste, this medicine is usually readily taken by children, some of whom even become fond of it.

With reference to diet, it will probably be desirable, if the child be not weaned, to obtain for it a healthy wet nurse, while, after weaning, a diet of milk, with an egg once or twice daily, will often agree better than any other food. In cases of this kind, and, indeed, in all where the digestive powers are feeble, a preponderance of farinaceous food is not desirable, while the child may with safety be allowed a little veal-broth or beef-tea daily, or even a little meat if it have cut some of its molar teeth.

Medical Gazette, August 27, 1847, *p.* 353.

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* The tan-bath is prepared, as directed by Dr. Elsasser, by boiling three handfuls of bruised oak bark, tied up in a linen bag in three quarts of water for half an hour, and adding the decoction to the water of the child's bath. These baths should be employed tepid, and their use should be continued every day for several weeks.

19.—*On the Application of Cold in Active Congestion of the Brain in Children.*—By Dr. C. West.—[We sometimes wish to use the sedative effect of cold, when the *shock* is not needed. Dr. West tells us that—]

A very intense degree of cold may be kept up by allowing cold water to drip constantly on the patient's head, which may be managed, as suggested by Dr. Watson, by means of a sponge and funnel placed a little above the head. This plan is, however, objectionable, on account of its being almost impossible, when it is adopted, to prevent the patient's person becoming extremely wet; and, moreover, it is but seldom that so powerful an agent is needed in the case of children. Few methods of applying cold to the head are better than that which consists in half filling two bladders with pounded ice or cold water, and placing them, each wrapped in a napkin, the one under, and the other upon the child's head. By pinning the corners of the napkins to the pillow you can secure them from being displaced, and can also prevent the weight of the upper bladder from resting too heavily on the child's head, while all danger of the bed or of the dress becoming wet is avoided.

Medical Gazette, June 4, 1847, *p.* 973.

20.—ON THE CONVULSIVE AFFECTIONS OF CHILDREN.

By Dr. Marshall Hall, F.R.S., &c.

No irritation of the substance of the cerebrum or cerebellum can produce muscular spasm or contraction *immediately*. This fact is the result of all experiments on animals, and of all observations on the human subject. No disease, therefore, *limited* in itself and in its effects, absolutely to the cerebrum and cerebellum, can be the cause of convulsion.

But irritation of the *membranes* within the cranium produces various muscular contractions—a fact which I ascertained in an important experiment, which I carefully detailed in the second series of my "Observations and Suggestions in Medicine," p. 64. No doubt *disease* sometimes acts as an irritant to these membranes, and produces its peculiar effects, or symptoms—a fact for which we are indebted with the light which it throws upon diagnosis, to experimental physiology.

But it is when a source of irritation is applied to the medulla oblongata, or medulla spinalis, that the most energetic and frightful forms of muscular contractions, or of convulsions, are induced.

Lastly, when certain nerves connected with the spinal marrow, which I have designated the incident spinal nerves are irritated, especially at the points of their origin in the cutaneous, mucous, or other tissues, various muscular contractions, now designated excited and reflex, occur. Excited through the medium of these incident nerves, the spinal centre sends forth its influence along certain muscular nerves specially associated with the former, and peculiar muscular actions ensue.

Infancy is the most excitable period of human existence, whilst it is exposed to its own peculiar sources of irritation.

Of these, one is the peculiar condition of the gums and of the alveolar processes which occurs during dentition. It is one of great vascular action and fulness, and of consequent tumefaction, and pressure on the dental nerves.

Another excitement frequent in the age of infancy is that arising from the condition of the stomach, in cases in which food has been given in quantity or quality not easy of digestion. The gastric acid is then secreted in undue measure, adding this source of irritation to that of indigestible aliment.

It is a singular fact, that the age of convulsive diseases is specially that of dentition, and of what I may term dubious diet. Dentition, as I understand the term, begins at birth, or even before; it is then that the tissues of the aveolar processes and cavities become the seat of augmented vascular action and nervous excitement, which do not cease until dentition is completed. I think it probable that many convulsive affections and their dire effects have their origin *in utero;* certainly many of the latter are congenital.

A third source of irritation is that which arises from morbid matters retained in the lower part of the alimentary canal, especially undue acidity, undigested food, flatus, scybala.

It is a well-known fact, that there is a greater mortality amongst children deprived of their nurse and natural food, and, as the phrase is, "brought up by the hand," than amongst children that are duly nursed. Whether this greater mortality depends on the greater prevalence of *convulsive* diseases is not so well determined. This is a question still requiring careful investigation.

It is difficult to determine the best kinds of food for infants deprived of the breast. Diluted cow's milk, but especially asses' milk, would seem the most natural, whilst the wholesomeness of *farinaceous* food is at least questionable.

A fourth source of excitement is that of the atmospheric air itself, and especially of the north, east, or north-east winds; and perhaps certain vapours, or the exhalations in certain localities.

The influence of certain states of the external atmosphere is probably exerted on the incident nerves of the larynx itself, which are thus excited, so as to induce, through reflex action, partial or complete closure of that organ. How important, then, is it to protect the susceptible little patient from an influence so fraught with danger!

With this influence of inspired air may be compared that of water, or other fluids, given to drink.

It is especially in this manner that the cold dry air rof the north-east wind, or the cold damp air of certain localities, inspired, or cold fluids taken in the pharynx, may act in inducing laryngismus, especially in the cases of undue susceptibility, whether hereditary or induced, which obtains in this malady.

It is precisely what is observed in *choking* from any cause. I know a patient in whom the larynx and pharynx are so excitable, that, for a long time, he has been unable to swallow cold water, or use even warm water, as a gargle, without laryngismus. A drop of water, or a particle of bread, falling on the rima glottidis, produces a precisely similar, but more severe, effect in all, *i.e.*, laryngismus or even laryngismus stridulus.

The north or east wind, a cold and damp atmosphere, certain vapours in the atmosphere. &c., act on the unduly susceptible incident laryngeal branches of the pneumogastric nerve, and induce its *closure* by reflex action; the dashing of cold water on the face acts on the tri-facial nerve, with which are mysteriously associated in action, the muscles which *open* that organ. How perilous, under such circumstances, the attempt to give the little infant *anything* to swallow!

I think it highly probable, fifthly, that the occurrence of this convulsive affection may become associated with an augmented excitability of the spinal centre; and that it is from this cause, that the attacks are apt to be reproduced by causes too slight to produce such an effect originally. Hence, the modes of treatment found to be beneficial, should be continued carefully, *long* after the little patient *appears* to be well. This caution I also regard to be of great practical importance.

The Influence of Sleep.—The condition of the nervous system during sleep, is peculiar. It is not unallied to epilepsy, and hence, it often passes into epilepsy, and especially into convulsive affection, in infants. The influence of volition being withdrawn, or nearly so, the muscles of the neck and larynx, like the orbicularis, contract on the venous system distributed in the neck, and the breathing becomes audible; it also ceases to be rythmic; and during its first and deeper stage, attacks of laryngismus, or other forms of convulsive disease, in infants, as of asthma or epilepsy in adults, are apt to occur.

In deep sleep, there is a low degree of laryngismus even, manifested by stertor or snoring.

During sleep, the nervous centres are congested. If we open the eye, the conjunctiva is often observed to be deeply suffused.

In this condition of the circulation, we need not feel surprised if undue excitability occur, and that a dream, or an excitant of reflex action, may add to the peculiar condition of the larynx and of respiration, which I have described, that which constitutes actual laryngismus.

Such being the character of these reflex actions, it is extremely interesting to observe what are the precise organs affected. These are precisely those which are bound, as it were, by the chain of special incident and reflex nerves with the spinal centre, and constitute the spinal system. The larynx, the sphincters, are special examples of this fact; as are, I believe, certain symptoms connected with the gall-ducts. The morbid actions of the muscles of the eye-ball, of the fingers, of the toes, and in the general convulsion of the countenance, and of the general frame, obviously point out the special part of the nervous system first and specially affected, and the mode and character of the affection.

I must now add that this malady has sometimes appeared to affect other branches of the pneumogastric nerve besides the laryngeal—viz., the bronchial, and the branches distributed to the minutest branches of the air-cells, the gastric, the hepatic, and the nephritic, inducing peculiar effects. These effects have not hitherto been duly traced. But I beg to call the attention of the members of this Society to the interesting topic. Bronchitic, gastric, hepatic, and renal symptoms, frequently form a part of this convulsive affection; the flow of bile is arrested; the urine is frequently affected with a deposit of the lithates. Are these cause or effect, or independent of the other phenomena?

Through this labyrinth, the knowledge we now possess of the spinal system can alone guide us. Like the stethoscope, it enables us to apply another, and in this instance, a new and internal sense, to the investigation and diagnosis of disease.

Of Laryngismus specially.—Without closure of the larynx—extreme laryngismus, and the consequent congestion of the nervous centres—there could, I believe, be no convulsion! This closure of the larynx must be complete, in the affection under consideration, as in all others, before convulsion *can* take place. Hence I have known the actual convulsion long warded off, by constantly and carefully watching the little patient, and whenever laryngismus was threatened, dashing cold water on the face. In this manner, too, the late Dr. Denman prevented the accession of puerperal convulsions in a case of the deepest interest, of which the details are given in his valuable work.

In pertussis, there is no convulsion, however violent the fits of coughing, until extreme laryngismus or closure of the larynx occurs.

In bronchitis, and in asthma, there is no convulsion, because there is no *laryng*ismus.

Laryngismus is the efficient cause of convulsion in epilepsy. It is the first link in the fearful chain of symptoms in this fearful malady. To Mr. Barlow I am indebted for the details of a case of epilepsy, in which the extreme laryngismus and the closure of the larynx was preceded by stridulous laryngismus, precisely similar to the crowing inspiration of infants.

It is laryngismus which destroys the patient in hydrophobia.

It is laryngismus which destroys the patient in the case of poisoning with strychnine.

The extent of the fearful influence of laryngismus in disease has not been appreciated in or by the profession. It is laryngismus which proves the cause of sudden death—which has occasionally induced dismay in the practitioner, and unjust reflections on the part of the patient's friends—in cynanche tonsillaris, and in scarlatina anginosa.

It was by merely witnessing the phenomena of strangulation in hydrophobia, that the late Dr. Physick, of Philadelphia, was induced to suggest the operation of tracheotomy in this dire malady —a suggestion full of promise, if, indeed, there be hope at all in this disease.

Juster views of the pathology of epilepsy will at least prevent us from attempting to give anything, far less any irritant or excitant, or cold water, or sal volatile, in the fit of epilepsy. In epilepsy, as in the crowing inspiration of infants, extreme laryngismus is the cause of sudden death. When this does occur, it may be induced by the attempt to give even cold water. Mr. Barlow was recently informed of such a fatal event, arising from this very cause, acting in this very manner, in the case of a little patient on his list, at the Infirmary for Children.

I believe a tube worn in the trachea would render the attack of epilepsy impossible! Extraordinary idea.

The diagnosis.—The diagnosis in the convulsive diseases of children is—

1. That of the kind or *origin* of the disease, and especially that between the *centric* and *ex-centric* affection.

2. That of the *form* of the disease, and especially that of the different, partial, and general convulsive affections; for it may be so partial as to consist of one symptom only, as strabismus laryngismus, or it may be general, and frightfully convulse every part of the muscular system.

In the *centric* affection there are generally pain, and cerebral symptoms, such as affections of the sleep, temper, and senses—wakefulness, fretfulness, intolerance of light and noise. and a peculiar contraction of the brow—from the beginning.

In the *ex-centric* affection, there is at the first, no cerebral symptom; all the phenomena are spinal: general convulsion must take place before cerebral symptoms are observed.

The diagnosis between that part of this affection designated laryngismus, and laryngitis, is founded on two circumstances: 1. the transitory character of the symptoms in the former, and its permanency in the latter; and, 2. the complication of the former with strabismus, chirismus, and other convulsive or spasmodic affection.

The same principles of diagnosis distinguish spasmodic laryngismus from any paralytic influence or compression of the pneumogastric nerve on the larynx, in which case there may be other effects of paralysis of the pneumogastric nerve, especially accumulated secretion in the bronchial tubes and pulmonary tissue, leading to cough and various "*râles.*" The reality and unbiassed diagnosis of this form of disease are still to be ascertained.

Laryngismus induced by bronchitis, or any inflammatory affection of the trachea or larynx, acting as an irritant on the incident laryngeal nerves, would be distinguished by the same absence of other spasmodic affection.

[The following are Dr. Hall's observations on the prevention and treatment of these diseases.]

If the case be one of centric origin, which is the more rare, the original disease must, of course, be treated energetically. If it be of ex-centric origin, or reflex, which is by far the more frequent case, the excitant or excitants, whatever these may be, must be carefully sought out, removed, and avoided.

But, *as a rule*, in *all* cases, the influence of *all* excitants, all excitants of emotion, of reflex action, and must be absolutely removed. For even in the centric affection, it may be undue excitability only only which is induced, and the *attacks* may depend upon external excitants.

The augmented arterial action within the gums and the alveolar processes, must be subdued by deep, diffused, and repeated scarifition of the gums, conducted with every precaution, to avoid excitement of a mental kind.

The stomach should be emptied forthwith. This may frequently be readily done by irritating the fauces with a feather, or the finger; or a dose of ipecacuanha may be given; and then such diet should be administered, according to such rules, as may prevent the presence and delay of undigested matters in the stomach. A new and healthy nurse, or asses' milk, given by means of the bottle, are resources of the utmost moment.

The intestines should be promptly washed out by means of ample enemata of tepid water, and they should then be kept well relieved, gently free indeed, by means of mild but efficient, aperient medicine.

I have great reason to suspect the existence of undue *acidity*, not only in the stomach, but in the course of the intestinal tube, in those cases; and I strongly recommend *antacid* aperients, such as a combination of the bicarbonate of potassa, and the carbonate of magnesia, in the proportion of one-fourth and three-fourths, in some proper aromatic or aperient vehicle, and repeated so as to produce the double effect of neutralizing the gastric acid and moving the bowels.

The next object is, to guard the little patient against every injurious impression from the external atmosphere. When the north-east winds prevail, or the air is cold or damp, the patient's bed should be surrounded, at intervals of about one foot, by *three* distinct curtains or tents of gauze, or of net; the air of the room should be protected from partial currents, be well supplied with hygrometric moisture, and be maintained at a temperature of 65° Fahr.

Every mental disturbance must be avoided; the approach of a stranger, the application of the gum lancet, and, not less, of medicine or other remedies, must be managed as carefully as possible.

The *sleep* should be *watched;* if it be disturbed by dreaming or starting, the infant should be gently awakened, and any sudden noise or light should be avoided; precautions necessary, indeed, at all times.

As stammering would scarcely exist without emotion, so the convulsive diseases of infants and children, especially those of ex-centric origin, would scarcely exist without emotion and excitants of reflex action; an aphorism of the utmost moment in practice, and admitting of great extension; for, in this respect, with the affection under consideration, chorea, the paralysis agitans, tetanus, and even hydrophobia itself, may be ranked, in some degree.

If laryngismus should exist and be extreme, the larynx being closed, water must be forcibly sprinked on the face; the larynx is opened by the new excitant acting on other nerves and muscles, and inspiration is excited.

If apparent asphyxia have taken place, and this measure have been tried in vain, artificial respiration should be attempted; the chest and abdomen should be compressed, and the pressure should be suddenly removed. (I once witnessed asphyxia from this cause in a puppy. I applied my ear so as to examine the beat of the heart; the pressure induced expiration, and inspiration followed on its removal, and the puppy recovered.) Or the lips of the practitioner should be applied to the mouth of the infant, whilst its nostrils are closed and its trachea pressed against the œsophagus: in a word, every measure should be adopted to which we have recourse in other cases of asphyxia.

If general convulsion be threatened, or have occurred, every precaution and measure should be adopted which can protect the cerebrum from congestion and its effects: the alcoholic lotion applied to the head, leeches, cupping, mercurials, and purgative medicines, fomentations and warmth applied to the feet, &c., must all be employed with promptitude and energy.

The secretions must be attended to – the bile, the urine, especially. If the former be deficient, the use of warm water enemata should be doubly enforced. If the urine be affected with lithate deposits, the antacid aperients must be doubly enjoined.

The hydrocyanic acid, hyoscyamus, &c., may also prove useful.

Lancet, June 12, 1847, *p.* 609.

21 —*On Cramp in the Legs and Feet.*—By Dr. S. A. **Bardsley**, Manchester.

Having myself been for many years a martyr almost every night to this torturing malady, and having tried in vain many of the "thousand and one" remedies usually prescribed for relief, I was at length led to reflect upon a fact which had hitherto escaped my attention, viz. while sleeping in a chair, with my lower limbs, if not touching the floor, yet so depending as to form an inclined plane with the whole of my frame, that I was in this position never disturbed by cramps; and upon inquiry I found other sufferers from habitual cramps were under the same predicament. These facts, in connection with some physiological considerations, induced me to put into practice the following plan, which has proved successful. My plan is to sleep upon an inclined plane, which is effected by taking care that the bed or mattress should incline twelve inches from the upper to the lower part of the bed; and for this purpose the lower feet were cut down so as to form this inclination. I will now state two facts, which are sufficient tests that neither the imagination nor intemperate diet were the causes of my habitual cramps. 1st. That after my trial of the inclined plane for seven consecutive nights with complete success, the housemaid, unknown to me, had raised my bed to its usual horizontal level, and, unconscious of the change, I went to sleep, when shortly afterwards the cramps were so severe as to compel me twice to alarm the family by my cries and moans; and it was not until I arose in the morning that I discovered the change in the form of my bed. 2nd. The other test is the one which I made six weeks ago. After very spare diet of twenty-four hours, I replaced my bed from the inclined to an horizontal position, when shortly after I awoke with dreadful cramps—so violent in the muscles of the thigh and legs as to require two persons to hold the limbs down in order to apply friction, with stimulants, both external and internal; indeed, the paroxysm was so severe and continued as to be accompanied with sickness and faintness. I deem it necessary to give a caution to sufferers from cramps, that the disorder is almost always connected with a weak or imperfect state of the digestive organs, and therefore, although the method now stated for relief will allow the sufferer several luxuries hitherto forbidden, yet there must be limits placed to such indulgences if he expects to pass the nights entirely free from his malady.

Medical Gazette, May 7, 1847, *p.* 834.

22.—CASE OF TRAUMATIC TETANUS, TREATED BY ETHER.

By Bransby Cooper, Esq., F.R.S., &c.

[It is very necessary, Mr. Cooper remarks, to investigate carefully the history of a case of tetanus, as it is so closely simulated by hydrophobia, and by poisoning by strychnia. The cause of death, Mr. Cooper thinks, is a wearing out from excessive irritation. He agrees with Dr. M. Hall in believing that traumatic tetanus is a disease set up in the spinal marrow, and depending upon irritation of the excitomotory system; it may be called *eccentric*, in contra-distinction to the idiopathic, or *centric* tetanus. Mr. Cooper considers opium, purgatives, blisters, and setons, to be the best remedies. He tells us,]

The following interesting case was admitted into Guy's Hospital under my care since I commenced publishing these lectures, but as I tried the effects of ether to ascertain how far its vapour would prove effectual in diminishing the muscular contractions of tetanus, I have thought it advisable to bring the result of the trial before the notice of the profession.

[A boy, fifteen years old, got his hand caught between two cog-wheels, and received some ragged wounds. Eleven days afterwards tetanic symptoms set in:]

12th.—10 o'clock, A. M.—The boy complains of pain in the back of the neck, extending down the back. The sterno-mastoids are contracted, and the mouth can only be about half way opened, and when opened the tetanic grin is observed. The abdominal muscles are contracted; the pulse 126, jerking, and slightly irregular. At 11 o'clock, A. M. the abdominal muscles were relaxed, and those of the back of the neck somewhat contracted, the head being bent slightly backwards. Mr. Stocker saw him, and ordered the extract of belladonna, gr. one-sixth every four hours, and a turpentine enema to be administered immediately, which, however, brought away no feculent matter.

8 o'clock, P. M.—He can now only very slightly open his mouth. The abdomen is hard, and the sterno-mastoids contracted. He complains of the pain in the back being increased since the morning. The pulse is 74, full, soft, and regular; face flushed; pupils slightly dilated. He has taken four of the belladonna pills, two at intervals of four hours, and two together.

13th, 10 A. M.—Mr. Cooper saw him this morning, and ordered the belladonna (of which he had taken two doses of gr. one-sixth, and four of gr. one-third,) to be discontinued, and the vapour of ether to be administered per rectum, which was done by placing some in a bladder, which had a pipe attached to it, and surrounding it with hot flannels. Just before the administration the pulse was 86, but as soon as the patient was disturbed it rose to 136, and during the time the ether was being used it sunk to 88, slightly irregular, and rather feeble.

The boy moaned at times, but seemed in no pain. The ether did not appear to produce any effect on the abdominal muscles, those of the jaw, or the sterno-mastoids, were the only ones contracted. The corrugatores supercilii, indeed, which were slightly contracted, relaxed, but this was probably voluntary. About ʒiij. of the ether were given. It could be distinctly smelled in the breath whilst it was being used. A blister was also applied along the spine in the dorsal region, and castor oil ʒvj. given.

8 o'clock, P. M.—He now seems pretty comfortable. The bowels have been freely opened since the ether was first used; pulse 68, soft; skin warm and moist. The ether has been twice used since the morning.

14th, 11 o'clock, A. M.—He passed a restless night, but slept at intervals for about three hours towards morning. The ether was from this period inhaled, and whilst taking it the pulse fell from 100 to 88, and became rather feeble; the boy seemed distressed, and the feet got somewhat cold. The mouth can now be but very slightly opened. He had two copious motions this morning.

2 o'clock, P. M.—Mr. Cooper saw him, and ordered port-wine ℥ij., beef-tea, and eggs, to be given daily, and the ether to be continued every four hours, and the blistered surface to be dressed with the savine ointment. The ether has no very marked effect, but appears to afford him relief. The wound is suppurating, and healthily granulating at the edges; in the middle a small slough has

formed, which seems to be a bit of tendon: it is firmly fixed, and will not come away.

June 15th, 10 A. M.—He had several spasms during the night, some of them rather violent ones: they occurred at intervals of from six to twenty minutes. The ether was administered every four hours, and relieved the spasms much. The skin is warm and moist; pulse 88, soft; the extreme tip of the tongue only can be protruded. The pupils, which yesterday were still rather dilated, have now quite recovered from the effects of the belladonna.

8. P.M.—The spasms are now occurring at short intervals, and do not seem to be very much relieved by the ether, which was used an hour ago. The abdomen is hard; pulse, 120, full; skin warm. He has taken a good deal of beef-tea, four eggs, and wine ℥vi. to-day.

16th, 10 A.M.—He passed a very bad night, and had several very violent spasms. The ether was administered at short intervals all through the night. The mouth can now be hardly opened. Pulse 126; skin warm and moist.

8 P.M.—Much in the same state. Appears to be a good deal relieved by the ether, but has had several spasms. He passes his water without difficulty: urine acid, unaffected by heat or nitric acid, and, on standing for some hours, deposits a small quantity of lithate of ammonia.

17th, 10 A.M.—He had several severe spasms during the night. At twelve o'clock, tincture of opium ʒj. was given to him, which, with the ether, appeared to afford some relief. At half-past 1 he had tincture of opium ʒss., and, after this, slept for about an hour and a half. He inhaled the ether every half hour or twenty minutes, for a few minutes at a time, and dosed during the intervals. A sponge was kept constantly wet with ether, and was applied to the nose. During the night he was able to open his mouth far enough to protrude a good part of the tongue, when spasm of the muscles came on, and it was with great difficulty released from between the teeth, and not before it was severely bitten. The pupils now are contracted; pulse 140, weak; bowels not open.

8 P.M.—He had two very violent spasms, one at 11, the other at 1 o'clock, during which the face became much congested, the breathing laborious, and the heart's action feeble, and artificial respiration was obliged to be resorted to. Had a castor-oil enema at 5 o'clock, which returned without any fæces. The breathing is now spasmodic; pulse 130, weak.

18th, 10 A.M.—The use of the ether was continued during the night. He had no distinct sleep. The slight spasms were very frequent, and he had one or two severe ones, during the continuance of which artificial respiration was employed. The pulse is now 140, weak; mouth almost closed. He perspires a good deal, and is constantly taking the ether.

12 o'clock.—He had a very violent spasm at 11 o'clock, and, after that, the body was drawn to the left side, and the foot of the left leg was extended and inverted. The pulse was, if any-

thing more weak and rapid; the pupils normal; the breathing spasmodic.

4 P.M.—Since the spasm at 11 o'clock, the body has become gradually more twisted to the left side, the opisthotonos getting very indistinct. A castor-oil injection was given him, but returned without fæculent matter; indeed, the bowels have not been relieved since Monday morning. The breathing has become gradually more spasmodical, and at every second inspiration the left sterno-hyoid is visibly contracted.

At 3 o'clock he had a very severe spasm, from which he never rallied; artificial respiration now failing, the pulse becoming gradually weaker, and the extremities colder. At last, the heart only could be felt, beating at about 40 per minute. In a little time, respiration appeared arrested, the contracted muscles relaxed, and life became extinct. The face quickly assumed a leaden colour after death, and, in the act of dying, the contents of the rectum were discharged. The wound on the dorsum of the hand continued to suppurate and granulate healthily up to the time of his death: the small slough in the centre did not come away.

Medical Gazette, *Aug.* 6, 1847, *p.* 221.

[Another case of traumatic tetanus is related by Mr. CHALMERS, Surgeon to the Liverpool North Dispensary. It occurred in a muscular young man. Large doses of opium were given at first with the effect of affording only temporary relief; and on the third day of the attack, the symptoms being very severe, he was made to inhale ether vapour for three or four minutes at a time, at short intervals, until he became tranquil: and a grain of calomel and one of opium given every hour, and then every second hour. The next day the ether was administered four times, and purgatives, castor and croton oils, and colocynth given, and afterwards, for several days, the ether was given three times a day. He recovered. Mr. Chalmers says,]

The foregoing case differs from all other cases that I have met with, in having so many days threatened before it made its real attack. The severity of the spasms, by being less marked on the chest than on the other parts of the body, afforded a better opportunity for the administration of the ether, at the same time that the great congestion of the lungs and head consequent on violent spasms of the chest was in a great measure prevented. The marked influence of the ether on the spasms in their worst state, and the still more marked influence on the great rigidity of the muscles in the chronic state, prove it to be an agent of great power in spasmodic action of the muscles. Even three weeks after the invasion of the disease ,the legs and thighs were so rigid as to require the exertion of all my power, added to the patient's own exertion, to flex them on the abdomen, but after having had the ether he flexed and extended them himself with facility.

In using the ether at first I was careful not to give it him in its strongest state, owing to its great effect on the already excited muscles of the throat, but afterwards he had it as strong as we could give it him, using hot water to increase the evaporation, and exhausting from one and a half to two ounces of the strongest ether at each administration. The spasms were always allayed by it, increasing during the interval, making him long for our re-visiting him; his only cry was that we did not give him enough of it.

This case, and one reported formerly from the North Dispensary, seem to me to be as convincing proofs of the efficacy of ether as any that have appeared.

The case I allude to was the reduction of a dislocation of the femur into the ischiatic notch, of five weeks' duration, less two days, and the patient, a powerful navigator, forty years of age. Two sets of pullies were applied to him with different fastenings to the thigh; the strain was kept up by one set, but the other set was also kept up so nearly to the same strain, that on the slightest slip of the principal pullies, the second set took their place. The strain was kept for one hour and a half, and during the whole of the time he was under the influence of the ether. It was about six weeks afterwards before he could walk freely.

Prov. Med. and Surg. Journal, June 30, 1847, *p.* 342.

[In the following case by Mr. HAWKESWORTH, Burton-on-Trent, we have also the effects of ether in this dreadful malady. The patient was a boy twelve years old, and the tetanic symptoms appear to have been severe. Remedies (not stated what) were given without effect, and it was decided to administer ether. Mr. Hawkesworth says :]

The narcotic effect was soon induced; in a few minutes the jaw fell, and the whole body assumed a relaxed and passive condition, so that the limbs could be moved about with the greatest ease. Now arose a moment of anxiety. As the boy recovers from the effects of the ether, and with returned sensibility, will the spasm and rigidity of muscles return?

For some time he remained quiet, and talked freely to those around him, and drank a little water. Gradually however, in the course of an hour, the spasm and rigidity returned; but certainly not so violently as before. Recourse was had a second time to the ether with good effect, and during every successive application, the patient became more relieved.

The boy is now well, and I think right to state, that, after the first trial of the ether, his medicine consisted merely of an occasional aperient, which was not so much required as before the ether was used.

Prov. Med. and Surg. Journal, May 19, 1847, *p.* 278.

23.—*On Delirium Tremens.*—[The following practical hints on this subject are taken from "A Practitioner's Day Book." The writer says,—]

When habits of intemperance have produced a pre-disposition to delirium tremens, slight causes which agitate the mind will bring on an attack. An Irishman, of the Roman Catholic persuasion, who had been living upon suction for the previous fortnight, was much annoyed by remembering that it was Friday, after he had partaken of a pig's foot for his supper. His religion enjoins this day to be kept as a fast. The consequence of the mental irritation was an attack, during the night, of delirium tremens, which eventually terminated his life.

A tailor, a devoted worshipper of the Bacchanalian Deity, and an occasional sufferer from delirium tremens, fell into pecuniary difficulties. He sallied out one morning in his usual health to procure the money to meet a bill, which on that day became due. His hopes rested principally on a customer who was considerably in his debt, but he was put off with a request to call again. The only thread which sustained him was now broken. He had hardly walked a hundred yards from the house, when, "he began to feel so light, that he thought he could have jumped over the moon, and he offered to fight any of the passengers." Being called to him a few minutes afterwards, I found him in a state of alternating exhilaration and despondency: this ended in delirium tremens.

A very intemperate young brewer's labourer suffered from the ordinary form of autumnal diarrhœa. He was convalescent from this in two days, but the third night was spent in a state of great restlessness. The next afternoon symptoms of delirium tremens showed themselves, and carried him off in about sixty hours.

I was summoned about five o'clock one afternoon to a woman whom I found under these circumstances:—She was lying on a sofa, with a man at her side holding her down by the wrists. On my entering the room, she immediately addressed me as her landlord, who she believed had called for her rent, which was due, but she was unable to pay. One moment she imagined she was in a prison, at another, in a madhouse; and she mistook her sons for turnkeys and keepers. On my humouring her fancies rather than contradicting them, or reasoning with her, she immediately made me her friend and confidant, and, entering into an account of her imaginary grievances, desired my aid in a plan for her escape. Her manner was quick, and her utterance earnest and rapid, but there was no tremor of the muscular system. Her pulse was hurried, but soft; her tongue was white, but moist. She had previously made no complaint, but on my questioning her, said she had pain all over. When I asked her where in particular, she pointed to her elbow, which had just been knocked in her struggles. She was a widow of forty, in moderately easy circumstances, and her countenance bore plain evidence of her partiality for the bottle. Her son told me he had frequently seen his mother the worse for liquor, more particularly so of late, and that she had suffered from an attack similar to this a few years before, but it had subsided on her taking some medicine which induced sleep. Her present attack had commenced about midday, she having slept soundly the night before, and felt quite well all the morning. I could discover no more immediate exciting cause. Her rent, of which she had spoken, was due, but her landlord had made no demand. The only particular event which had occurred, was a slight dispute with one of her sons about a shirt, which he said had not been properly aired.

I prescribed forty minims of laudanum, and forty of the tincture of hyoscyamus, to be taken immediately, and repeated every second hour, until sleep was induced. I saw her again about seven, soon after she had taken her second dose. She was now more tranquil, though still labouring under the same delusions, occasionally fancying that she saw absent people, and recognizing nothing about her, though sitting in her own room, and surrounded by her sons. At nine, after a third dose had been given, I found her quite herself again, though somewhat agitated at discovering that she had been so ill; she had, however, no recollection of what had passed. The opiate had made her rather drowsy, and she had even dozed off once for about ten minutes. I directed her to take another draught. and then go to bed. She slept well through the night, and in the morning I found her merely suffering from slight headache and nausea, probably the effects of the opium, as they were readily relieved by a purgative.

Provincial Medical and Surgical Journal, Oct. 20, 1847, *p.* 582.

24.—TIC DOLOUREUX TREATED BY ETHER.

By Dr. T. Smith, Cheltenham.

[Dr. Smith's patient, a clergyman, sixty years of age, had laboured under a severe neuralgic affection for several years: the tic doloureux had been preceded by pain in the occiput and in the right hypogastric region, and was accompanied at the date of this report, by marked and severe dyspeptic symptoms. The pain in the face was very severe; Dr. Smith says,]

During the paroxysms, the pains in the face darting through the left temple, and down the left cheek as far as the chin, were of the most acute and excruciating character. At the commencement, and during the attack, my patient involuntarily pressed the abdomen firmly with his right hand and arm, raised the left hand to the affected cheek, as if to shield it from impending danger, closed the right eye, and, what appeared to me remarkable, being different from anything I had hitherto observed in facial neuralgia, and, I believe, contrary to the recorded experience of most authors on this disease, the muscles of the right, or non-affected side of the face, were those which I noticed to be principally contracted. He likewise bent his body forwards, apparently with the view to relieve the tension of the abdominal muscles, flexed the right leg on the thigh, and drew the limb up and across the left extremity.

To the by-stander these paroxysms were frightfully distressing, coming on suddenly in the midst of conversation or whilst eating, and recurring without the slightest intimation of their approach, and frequently lasting for hours at a time: they appeared to render life completely miserable.

I prescribed for him the following pills:—℞ Ext. belladonnæ, gr. one-fourth; fellis tauri inspissat, gr. iv.; pulv. scammoniæ, gr. iij.; sodæ sesquicarbonat, gr. iij.; assafœtidæ, gr. ss. M. ut fiant pilulæ duæ hora somni sumendæ.

May 7th.—To continue the pills, and cautiously to apply, night and morning, an atropine lotion to the side of the face.—℞ Atropinæ sulphat. gr. ij.; aquæ rosæ, ℥ss. misce, fiat lotio. In addition I advised an alkaline warm bath twice a week, perfect abstinence from all stimulating foods or drinks, and constant exercise, either passive or active, as it could be borne, in the open air.

Under this plan of treatment, my patient gradually experienced an amelioration in his sufferings. His nights were more tranquil; his appetite improved; his physical powers equal to greater exertion.

12th.—The liver still continuing painful, I recommended the surface of the abdomen to be rubbed night and morning with the following ointment:—℞. Ung. hydrarg. fort., ung. iodini comp. aa. ʒiv.; camphoræ, ℈j. M.

As the tic douloureux subsided in the face, an intermitting pain of a gnawing character attacked the dorsum of each foot, which greatly impeded locomotion. To this was superadded palpitation of the heart. and slight periodic dyspnœa.

16th.—He was now ordered to discontinue the pills and ointment, and to apply the atropine lotion to the præcordial region, and to take the following powders:—℞ Pulv. cinchonæ, ferri sesquioxydi, aa. gr. x.; pulv. scammonii, gr. j.; pulv. zingiberis, gr. ij.; pulv. rhei, gr. iij. M. et fiat pulv. ter in die capiendus e quovis vehiculo idon. ℥xii. of the Effervescing Pittville Saline* to be taken every morning before breakfast,—℥vj. for a dose, with an interval of twenty minutes before taking the second. To repeat the alkaline baths; and, for his usual beverage, to have effervescing magnesia, or potash water, or lime water and milk.

For three weeks Mr. B. pursued this plan of treatment with considerable advantage. Towards the close of the month of June the weather suddenly changed, accompanied with a keen north-east wind. The paroxysms now returned as severe as ever.

[On the 28th June, the pain being very severe, the following simple contrivance was resorted to in order to administer ether:]

Into a large wash-hand basin was put about half a pint of hot water. Into this basin I placed a water-jug, with a mouth sufficiently capacious to receive the face. I then poured two drachms of rectified sulphuric ether into the jug, and requested Mr. B. to breathe into and out of the vessel. To prevent the escape of the vapour, I encircled his face with a thick towel. Within two minutes the ether took effect, as evidenced by the deep inspiration, dropping of the hands, and extension of the lower extremities. On recovering his sensibility, he merely complained of a feeling of sinking; and up to the present time there has been no return of the paroxysms, with the exception of one or two trifling shocks experienced during the day on which the ether was inhaled. To guard against this recurrence, I advised small doses of turpentine —♏v. three or four times a day in water. By perseverance in this plan, conjoined with the baths above described, and the occasional use of the effervescing Pittville waters, my patient has enjoyed an immunity from his former sufferings, which, to use his own expressive words, has now rendered his life " one of comparative happiness."

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* This is merely the saline water of the Pittville Spa charged with carbonic acid gas, which I have found in many cases to act more beneficially than the waters in their original state.

Medical Gazette, Oct. 1, 1847, *p.* 589.

25.—*Muriate of Morphia in Facial Neuralgia, Toothache, &c.*—By M. Ebrard.—M. Ebrard has always found toothache yield, in from half an hour to two hours, after friction of the gum, on the affected side, with muriate of morphine in powder. The first friction should be performed in the evening, at least three hours after the last meal, unless the severity of the pain prohibits delay. The patient should take a quarter of a grain of the salt on one of the fingers, previously moistened; rub it gently on the gum for about three minutes, then incline the head towards the affected side, avoid spitting or swallowing the saliva, so as to favour the contact of the salt with the affected part, and maintain this position for at least ten minutes. This process should be repeated in two hours, if relief is not obtained. Should the pain return the day following, the application should be repeated. Half or three quarters of a grain of the salt may be employed, if necessary. The friction should not be repeated, if headache, disposition to sleep, &c., occur.

When neuralgia occupies the forehead, or any immediately adjacent situation, M. Ebrard recommends from a quarter of a grain to a grain of muriate of morphine to be snuffed up the nostril on the affected side, daily. It is, in these cases, desirable that the mucous membrane should be cleansed by some emollient application.—*Medical Press.*

Lancet, June 19, 1847, *p.* 652.

26.—ON THE PATHOLOGY AND TREATMENT OF HYSTERIA.

By Dr. J. M. Coley, Physician to the Western Dispensary, &c.

[Dr. Coley thinks that the true pathology of this disease has been obscured by the name, which points to some affection of the uterus, and by the doctrine which attributed all simple convulsions to irritation merely. His views are, that]

Hysteria consists of a disturbance in the functions of one or more of the three great nervous centres, namely, the brain, spinal marrow, and the abdominal ganglionic system of nerves, which disturbance is manifested by symptoms peculiar to the respective seats of the disease. Thus, when the brain is affected, we find there are present a suspension of the senses and of consciousness, or of the perception, arising from external stimuli, manifested by stupor, temporary loss of sight, hearing, smell, taste, and touch; and this condition of the brain may advance, and partake more or less of the nature of epilepsy or apoplexy; that is, it may be accompanied with convulsions, or stertorous breathing and coma, and terminate in death, like ordinary cases of those diseases, either by asphyxia, or compression, or extravasation in the brain.

When the pulmonary or aortal circulation is interrupted by hysteria, we shall find the capillary vessels in the skin or subcutaneous cellular membrane endeavouring to relieve the temporary plethora, which may oppress the membranes of the brain, or of the air or alimentary passages, by producing a sudden efflorescence on some parts of the external surface, or effusion of serum in the cellular membrane of the hands or feet. A similar temporary congestion or plethora in the minute vessels of the skin, and similar œdematous swellings, which are its result, occur during the violent paroxysms of spasm in the glottis, arising from interruption to the pulmonary circulation, and a corresponding congestion in the lungs. The hysterical cough is a modification of disordered function in the laryngeal branch of the pneumogastric nerve, and may be always traced to some mental emotion disturbing the circulation in the brain; and hysterical vomiting may also be referred to cerebral congestion acting upon the stomach through the medium of the pneumogastric nerves.

The symptoms of hysteria proceeding from temporary congestion in the membranes of the medulla spinalis are convulsions of the voluntary muscles, or remitting neuralgia, or morbid perception, or temporary paralysis, or enervation in the nerves of sensation. The latter symptoms are produced by vascular excitement or compression acting upon the sentient fibrils, and the former by a derangement produced in the same manner in the functions of the motor filaments of the spinal nerves; and the seat of the disease may be discovered by an attentive observation of the phenomena. The true hysterical affection of the spinal nerves is seldom if ever unconnected with a corresponding disturbance in the functions of the cerebrum, or of the great sympathetic. The exact condition of the capillary vessels in the membranes of the spinal marrow, during the hysterical paroxyism, is not known; but I have repeatedly discovered the existence of congestion or inflammation in the arachnoid and pia mater, in the vicinity of the pons Varolii, and effusion beneath those membranes after fatal convulsions in cases complicated with paralysis of the voluntary muscles; which facts tend to prove that the nerves of sensation and voluntary motion are excited by increased vascularity in their investing membranes, and paralyzed by the compression occasioned by interrupted circulation, effusion, or extravasation; and this appears to me to be a much more correct explanation of the cause of convulsion and paralysis than simple irritation of the nervous fibrils unconnected with the sanguineous circulation. Among the various symptoms arising from hysterical excitement of the motor fibrils of the spinal nerves may be mentioned the partial contractions of the intercostal and abdominal muscles, commonly described as cramps. These are generally disregarded by the medical attendant; and considered irremediable, the patient being left to endure protracted misery. The most common seats of these singular convulsions are the recti abdominis muscles. Hard, large, round, incompressible tumours are formed in them by the sudden involuntary contraction of the muscular fibres, presenting the appearance of solid indurations, and communicating to the superincumbent hand a rotatory and sometimes a puslating motion, resembling that of the fœtus in utero.

Hysterical disturbance in the abdominal ganglionic nerves, is manifested by irregular action in some of the numerous organs which they supply with vitality. Hence we may notice extraordinary pulsations in the heart, a disordered state of the peristaltic motion of the alimentary canal, a derangement in the secreting functions of the kidneys, &c. The pulsation of the heart is sometimes found to be intermittent; at other times this organ is troubled with a morbid irritability, which renders the contraction of the left auricle distinctly perceptible, and the pulse in the cardiac region twice as frequent as that at the wrist.

The rumbling noise, occasioned by disordered function of the fibrous coat of the bowels, so common in hysteria, whereby the gaseous contents of the colon are forcibly moved in different directions, is not peculiar to that disease; as it is met with in those cases of epilepsy which are connected with melancholy and dyspepsia; and the globus hystericus, or the sensation of a ball ascending the œsophagus and producing dysphagia and a sense of suffocation, is also neither peculiar to hysteria nor to women.

Medical Gazette, October 1, *p.* 586.

Treatment.—When hysteria is accompanied with epilepsy or temporary hemiplegia, or other symptoms of cerebral disease, and the patient is plethoric, leeches should be applied to one of the temples, or blood should be removed by cupping between the shoulders.

[If the local bleeding be ineffectual, Dr. Coley advises the administration of digitalis, two grains twice a-day, and the application of a blister to the nape; chalybeate medicines are to be strictly prohibited. Dr. Coley relates the case of a young lady, 16 years old, who had been subject to various hysteric attacks. She was of plethoric habit, and looked as if predisposed to apoplexy. The attacks consisted of violent palpitation, twitchings of the eyelids, temporary loss of sight, paralysis of one leg, foaming at the mouth, &c. Twelve leeches were applied to the temples, and the following medicines ordered:—]

℞. Extr. belladonnæ, gr. v.; ferri oxydi, ʒiss.; extr. gentian. ℈j.; M. ft. pil. xxiv. cap. iv. octavis horis, c. cochl. ii. largis mist. seq.; ℞. Rhei pulv. ℈j.; tinct. aurant. ʒii; infus. quass. ℥vj. M.

31st.—Mr. Ince informed me that the patient was rapidly improving.

June 4th.—She has had no return of the fits, and the double pulsation of the heart has ceased. ℞. Extr. belladon. gr. x.; pulv. lini, gr. x. M. ft. pil. xii. cap. j. octavis horis cum cochl. ii. largis seq.; ℞. Ferri oxydi, ʒiss.; t. aurant. ʒii.; rhei, ℈j.; infus. quass. ℥vj. M.

[A few days afterwards she had anattack which was preceded by rigors, and partook more of the nature of epilepsy than hysteria. Dr. Coley tells us]

Neither the spinal nor the ganglionic nerves were affected, except the former in a slight degree, in consequence of which, occasional gentle convulsions were produced in the muscles of the arms, which were moved as if by a galvanic shock; the flexor muscles of the fore-arm being at the same time firmly contracted. The patient lay in a state of stupor and insensibility during more than an hour, now and then foaming at the mouth. The forehead felt very hot, and the face was flushed, while the extremities were cold; the eyes were closed; there was no return of palpitation of the heart.

I prescribed the following medicines, and a repetition of the leeches, which I afterwards found were not applied, on account of an insurmountable objection which the patient had to loss of blood:—Digitalis pulv. gr. xvj.; saponis, ℈j. M. f. pil. xvj.; cap. ii. bis die, c. cochl. ii. largis mist. seq.; ℞. Ammon. sesquicarb. ʒss.; tinct. aurant. ʒiii.; inf. quass. ℥viiss. M.

The convulsions in the voluntary muscles, which are the most troublesome and alarming symptoms to the attendants, are speedily and effectually removed by the exhibition of belladonna, which has also the effect of removing the disordered function of the nerves of sensation. The proper dose of the extract of belladonna, which is the preparation I use, is half a grain for an adult, which should be repeated once in eight or twelve hours, according to the severity of the convulsions.

I am not prepared at present to explain satisfactorily the manner in which belladonna acts on the nerves of sensation and voluntary motion proceeding from the spinal column; but I apprehend that it is by producing partial enervation, or diminished supply of nervous fluid, and consequent temporary paralysis, as in the iris.

Hysteria proceeding from disordered function in the abdominal ganglionic nerves is frequently produced by constipation, which is permitted by some indolent females in the middle and upper classes of society to proceed to such an extent as to occasion an enormous accumulation in, and distention of, the colon. The consequences of this preternatural condition of the bowel are, obstruction to the return of venous blood from the intestines, and a general congestion in the abdominal viscera. The most effectual mode of removing this stagnant collection of fæces consists in the exhibition of pills composed of extract of jalap, compound extract of colocynth, and compound rhubarb-pill, which should be regularly repeated every second day, until the contents of the colon have been completely dislodged. In these cases saline purgatives will be found of no avail, as they fail to produce that contraction in the large intestines which is indispensable to insure their perfect evacuation.

When hysteria is combined with pyrosis, the cure of the former will often be found to succeed that of the latter, which is most successfully treated by trisnitrate of bismuth in conjunction with a bitter infusion.

A state of anæmia is another very common cause of this form of hysteria, as well as of clavus hystericus, and other varieties of neuralgia and of morbid sensibility in the nerves of sensation. This condition of the blood, with which there are found a deficiency of red globules, and a corresponding enervation in the vital organs, is that which induces hysteria in males; and, by depriving the uterine vessels of their natural energy, is the cause of that species of chlorosis in females which is curable by chalybeates. Whenever neuralgia is connected with anæmia, it will be found that the latter has preceded the former, and that the most successful treatment will consist in the exhibition of some preparation of steel, which by restoring the healthy proportions of the elements of the blood, has the effect of removing that combination of anæmia and enervation which is essential to the generation of this kind of nerve-ache. In some cases this simultaneous deficiency of red globules in the blood, and of nervous energy in the vascular system, proceeds to such an extent as to produce passive congestion in the viscera of the thorax and abdomen, and consequent effusion of serum in the cellular membrane of the face and extremities.

Medical Gazette, Oct. 8, 1847, *p.* 623.

27.—*Ether in Hysteria.*—Mr. Wilkinson, of Barton, Lincolnshire, describes the case of a female, twenty-nine years of age, who laboured under symptoms of hysteria for six years, together with great irritation of the spinal marrow in the dorsal and lumbar regions, and who had occasional attacks of clonic spasm of the trunk and upper and lower extremities—the fingers and toes being permanently contracted. The attacks of spasm lasted for a variable period of time. Mr. Wilkinson was called to see her in one of these attacks, which was said to bave continued for four days and nights. He had recourse to the inhalation of ether, and in one minute the arms were still, in another all spasmodic action was arrested. Sleep ensued soon afterwards, and continued for nearly eight hours, the spasms not recurring when she awoke. Two or three days afterwards, however, another attack came on, but was speedily subdued by the inhalation of ether.

Lancet, July 3, 1847, *p.* 14.

28.—ON ELECTRICITY FOR MEDICAL PURPOSES.

By Dr. GOLDING BIRD, F.R.S., &c.

[In several of our previous volumes we have given interesting papers on this subject from the pens of Dr. Neligan, Mr. Donovan, Dr. G. Bird, and Dr. Letheby. In the following articles the reader will find several additional particulars, although in many points they embrace information given before. After adducing evidence of the existence of free electricity in the animal body, Dr. Bird says,]

Having demonstrated the existence of electricity in the animal frame—what is its origin?—whence is it derived?—if we for a moment animadvert upon the facts already recounted, we find evidence of the existence of electricity under two distinct forms; one in which this agent is in a neutral and static condition, that is, in a state of rest, capable of being resolved into its two component elements by various mechanical and chemical processes. This form of electricity is possessed by the living fabric in accordance apparently with the general laws of the universal diffusion of this agent throughout all matter, whether dead and inert, or quick and animated with the flame of life. It was this that I decomposed by drawing a comb through my hair, and the existence of one of whose elements in a free state I demonstrated with the electrometer. We have no means, in the present state of our knowledge, of explaining the origin of this electricity in the body, save by referring it to the fiat of omniscience.

There is, however, another state in which electricity exists—a dynamic condition, electricity in motion, or in the state of current. This evidently is not anything superadded to the body, but is merely the electricity normally existing in a state of rest and neutral condition, decomposed by some cause or series of causes, by which its positive and negative elements are separated, their attempt at reunion to reconstitute the neutral electricity giving rise to the phenomena we have been investigating. Let us now review some of the processes going on in the body, which from their nature, appear capable of disturbing the electric equilibrium which would, without their influence, exist alike in the living frame as well as in brute matter.

It is now an incontrovertible fact that no chemical change can possibly occur without a disturbance of electric equilibrium. Let us, then, ask what processes of this character are going on in the body. The first in point of importance that demands our attention is the union of carbon with oxygen to form carbonic acid. We know that in the respiratory process, this acid, in the form of gas, is, with aqueous vapour, evolved from the lungs, in addition to a considerable quantity which exhales with the perspired vapours from the surface of the skin.

[The oxidation of hydrogen, phosphorus and sulphur, is also a source of free electricity. Dr. Bird proceeds,] But a more important influence disturbing electric equilibrium is found in the series of decompositions which, in the physiological condition of the body, are always in action. It is impossible that any two elements can be rent asunder without setting free a current of electricity, which, insignificant as it might theoretically appear, is nevertheless competent to the production of many important phenomena. As one among many examples, I would cite the case of common salt, which plays so important a part as an article of food, and for which perhaps alone, of all condiments, an universal appetite exists. In addition to the proportion of this substance which enters the blood unchanged, and becomes an element of all the secretions, a part is decomposed, and one element in union with hydrogen appears as hydrochloric acid in the stomach; another in union, with oxygen, constitutes, as soda, an important constituent of the bile.

[Nor is the amount of electricity thus set free, of unimportant amount, as shown by the researches of Dr. Bird, and Becquerel. Indeed, Faraday's researches render it probable that the electricity freed during the decomposition of nine grains of water, is actually more than that which produces the most vivid lightning. A further, and very remarkable source of electricity in the animal body, is thus noticed by Dr. Bird:]

Under the influence of a weak current, salts can be resolved into their component elements. In this way a compound can be separated into its constituent acid and base. Now it is a remarkable fact, that if an acid and electric solution be so placed that their union be effected through the parieties of an animal membrane, or indeed any other porous diaphragm, a current of electricity is evolved. This fact was first noticed by Becquerel, and has since been found to be true, not only with nitric acid and potass, during whose combination he observed this disturbance of electric equilibrium, but with all other acids and soluble bases.

Now, with the exception of the stomach and cœcum, the whole extent of the mucous membrane is bathed with an alkaline mucous fluid, and the external covering of the body, the skin, is as constantly exhaling an acid fluid, except in the axillary and perhaps pubic regions. The mass of the animal frame is thus placed between two great envelopes, the one alkaline, and the other acid, meeting only at the mouth, nostrils, and anus.

Within the last few months, the results of some researches of Liebig have rendered it very probable that a large proportion of the electricity of muscular structures is owing to the mutual reaction of an acid and alkaline fluid. Every one is aware that the blood, in a healthy state, exerts a decided and well-marked alkaline action on test-paper: now it is remarkable that although a piece of muscular flesh contains so large a proportion of alkaline blood, still that when chopped up, and digested in water, the infusion thus obtained is actually acid to litmus paper. This curious circumstance is explained by the fact announced by Liebig, that although the blood in the vessels of the muscle is alkaline from the tribasic phosphate of soda, yet the proper fluids or secretions of the tissues exterior to the capillaries is acid from the presence of free phosphoric and lactic acids. Thus in every mass of muscle we have myriads of electric currents arising from the mutual reaction of an acid fluid exterior to the vessels on their alkaline contents. Whatever may be the ultimate destination of this large quantity of electricity, it is at least remarkable that a muscle should be really an electro-genic apparatus. This view of Liebig on the condition of the fluid of muscles curiously helps in explaining the presence of electricity in them, announced by Matteucci. We have thus two sources of the electricity of muscles—the effects of metamorphosis of effete fibres on the one hand, and on the other the mutual reaction of two fluids in different chemical conditions. It is certainly curious thus to find a muscle, an organ long regarded as the motor apparatus of the bony levers of our frames, invested with new properties. Its agency in generating electricity can no longer be denied, and I hope by and by to render it probable that the seat of the generation of animal heat is also in the muscles. In the course of twenty-four hours, a considerable proportion of watery vapour exhales from the surface of the body. This has been variably estimated, and in all probability is liable to great variation, but from thirty to forty-eight ounces of water may thus be got rid of from the system The evaporation of this amount of fluid is sufficient to disturb the electric equilibrium of the body, and to evolve electricity of much higher tension than that set free by chemical action.

In summing up the foregoing facts, we are, I think, justified in concluding that a mass of evidence has been adduced demonstrative of the actual existence of electricity in three states in the body:

1st. In a state of equilibrium, common to all forms of ponderable matter.

2d. In a state of tension capable of acting on the electrometer, giving to the whole body a generally positive condition, and arising, in all probability, from the disturbance of the normal electric equilibrium by the processes of evaporation and respiration.

3dly. In a state of current, a dynamic condition, arising from the disturbance of equilibrium by the union of carbon with oxygen in the capillary system, and from other chemical processes going on in the body; such currents, although *suspected* to be everywhere existing, having been actually detected between the skin and mucous membrane, the stomach and liver, and the interior and exterior of muscular structures.

[Then arises the fascinating but intricate question, What purposes do these currents subserve? The speculations to which it gives rise, are, of course, of too unsettled a nature for our pages, and we must refer those of our readers who are interested in the subject, to Dr. Bird's excellent lectures themselves.]

Medical Gazette, May 7, 1847, *p.* 799.

The effects of an electric current upon a nerve, and consequently on the muscles it supplies, remarkably differ according to the direction it pursues. This observation is one of the greatest interest and importance, and in repeating it, the only precaution that is necessary to observe all the phenomena I am about to describe, is that of using as weak a current as possible. Make use of an apparatus consisting of a single pair of copper and zinc plates excited by hydrochloric acid greatly diluted.

Muscular contractions are developed in the most perfect manner when the positive current travels the limb in the presumed direction of the *vis nervosa;* hence, in repeating Galvani's experiment, the contractions are more powerful when the zinc is connected with the lumbar nerves, and the copper or silver plate with the muscles of the toes, because in this arrangement the positive current traverses the arc from the copper to the zinc, and then down the limb back to the copper. If care be taken to keep the leg of the frog sufficiently long to diminish its irritability, no contractions whatever will ensue on making contact between the zinc and copper plates if their direction be reversed; but in this case contractions ensue on breaking contact, from the re-arrangement of the normal electricity in the direction of the *vis nervosa.* In speaking of these currents I shall for the future speak of a positive one, when moving in the direction of the nervous ramifications, as a *direct*, and when in the opposite direction as an *indirect* current.

It seems quite certain that *cæteris paribus* nerves only convey the influence of a current in a given and definite direction, and that a mixed nerve of sensation and voluntary motion will only obey the stimulus of the electricity to excite contractions when acted upon by a direct current,—an indirect current exciting only painful sensations and no motion.

If in a living frog the legs be separated from the trunk by the division of all intervening structure except the sciatic nerves, by which communication is kept up between the several portions, and a current be transmitted, very instructive results bearing upon these facts are observed. For when a direct current is allowed to traverse the body of the animal, along the nerves to the legs, violent convulsions occur, whilst if the direction of it be reversed no motion whatever occurs, but the frog will express its sense of pain by audible croaking. The application of the galvanic stimulus thus lends much support to the opinion of the really double structure of the so-called nerves of sensation and voluntary motion, for we have seen that when travelling in the direction of the ramification of the nerves a centrifugal motion is excited, and when in the opposite direction a centripetal sensation is also excited, and not the slightest motion occurs if all communication with the spine is cut off; a fact which admits of a ready explanation by the views of Dr. Marshall Hall, to whose patience, ingenuity, and talent, this portion of physiology stands so deeply indebted.

Medical Gazette, May 21, 1847, *p* 892.

[In Professor MATTEUCCI's lectures on the physical phenomena of living bodies, we have the following remarks upon the "muscular electrical current:"]

Here is a very simple and easily executed experiment, which proves the existence of an electric current, produced by uniting, by means of a conducting body, two different points of the same muscular mass, either of a living animal or of one recently dead. A frog is prepared in the ordinary method of Galvani; I divide its pelvis in the centre, carefully detach the muscular part of the thigh, and divide one of the lumbar plexuses at its exit from the vertebral column. We have, in this way, the leg of a frog united to its long nervous trunk, composed of the lumbar plexus and its prolongation in the thigh—that is to say, the crural nerve. A frog so prepared I have termed the *galvanoscopic* frog, which is extremely useful, in researches upon the electric current. For this purpose, it is only necessary to put the foot of the frog into a glass tube, covered with an insulating varnish, take hold of the tube with the hands and afterwards bring any two points of the body whose electric condition is to be examined into contact with two different and sufficiently distant points of the nervous trunk of the galvanoscopic frog. If care be taken never to touch the body with any portion of the muscle of the leg, and if this be well isolated from the hand, we may be sure that the contraction produced in the galvanoscopic frog is owing to a current engendered in the body touched, and that the nerve only conducts it and makes it evident by the contraction of its muscle.

Having a frog thus prepared, I take some living animal,—a pigeon, for example,—and make a small incision into its pectoral muscle, and after carefully removing the integuments, I introduce the nerve of the galvanoscopic frog into the wound.

You see the contractions of the frog; if you consider its position, you will be convinced that it is absolutely necessary to touch two distinct parts of the pectoral muscle of the pigeon with two different points of the nervous trunk. If I place the extremity of the nerve of the frog at the bottom of the wound, and another point in contact with the edges of the incision, or the external surface of the muscle, the frog invariably contracts. This experiment plainly shows the presence of an electric current which circulates in the nerve, since it is necessary to form a circle in which it may be included. If you have any doubt as to whether these contractions of the frog are really excited by a current due to the different parts of the muscle of the animal, you will soon be convinced of it, by observing that no contractions are produced when the two different points of the nerve are touched with a liquid, or with a perfectly homogeneous conducting substance. Do not suppose that blood is more suitable than any other conducting liquid to excite contractions in the muscle of the galvanoscopic frog. If I place a drop of the blood of the same pigeon upon a plate of glass, and put two distinct points of this drop in contact with the nerve of the frog, there is no indication of a current.

It is unnecessary to show you that if I moisten either the nerve of the frog, or different parts of the muscle of the pigeon, with a saline or acid solution, or, still better, with an alkaline one, the contractions of the frog are more energetic than in the first experiment. These solutions act chemically upon the substance of the nerve or muscle.

The phenomenon you have just witnessed in this pigeon takes place quite as well in every other animal, whether warm or cold blooded. I have lately proved that the galvanoscopic frog gives the same signs when tried upon a wound in human muscle.

The contractions are also perceived in it when the nerve is placed in contact with a muscle removed from the animal.

From all that has been said, it follows that the existence of a muscular electrical current is clearly shown, and that its principal laws are established. This current takes its origin in the electrical states produced by the chemical action developed during the nutrition of muscle. The blood charged with oxygen, and the muscular fibre undergoing changes by contact with this liquid, form the elements of a pile; they are equivalent to the liquid acid and the zinc. In the normal state of the muscle, there can only be molecular currents produced by the formation and destruction of contrary electrical states in the same points; but if a great number of points of the muscular fibre be placed in communication, by means of a good conductor, with others of a different nature, and which are not undergoing the same chemical action from the blood, the electrical current begins then to circulate. This is a fact derived from experiment; it proves at once the development of electricity in living muscle, and the impossibility of the current existing in muscular masses in their natural state.

Lancet, July 31, 1847, *p.* 113.

[Professor Matteucci has some interesting observations respecting the difference (physiologically) between the *direct* and *inverse* currents. When a current is passed through the prepared frog, a period soon arrives when there is only contraction in the limb traversed by the *inverse* current, at its cessation, and in that traversed by the *direct* current, at its commencement. M. Matteucci says:]

We may now direct our attention to the phenomena which are manifested by allowing the passage of the current to continue; the contractions disappear, after a certain time, in the limb traversed by the direct current, and we observe it to persist only in the limb submitted to the inverse current at the moment of its interruption. This result (which may be obtained, both in the living and in the dead frog, and which is equally produced by acting with the current upon the nerves only) clearly proves that the excitability of a nerve is much more feeble from the passage of the direct than from that of the inverse current. I will lay before you some facts relative to this subject, which appear to me to show very satisfactorily, that not only does the inverse current modify the excitability of a nerve less than the direct, but that it acts in a directly opposite way—in fact, so far from diminishing, it even augments, the excitability.

If the nerve be traversed by the inverse current for many hours, —three or four,—the limb in the greater number of cases gives a very violent contraction on the interruption of the circuit, which persists for some seconds, and which might almost be termed tetanic. It is sufficient to close the circuit again for this phenomenon to cease; but what is very important to remark, is, that at the moment that we close the circuit in this case, there is a new contraction, after which the limb resumes its natural condition. This contraction which supervenes upon the closure of the circuit in the case of the inverse current, does not continue more than a few seconds; but it has appeared even after a very prolonged action of the current.

[M. Matteucci made a series of experiments to ascertain the relative strength of the two currents, with reference to their action upon the excitability of the nerves. He came to the following conclusions:]

1st. The contraction excited by an electric current, and transmitted through a mixed nerve in the direction of its ramification, and which is consequently termed the *direct*, is always more energetic than that which this same current gives rise to when traversing the nerve in the opposite direction. 2nd. The *direct* current rapidly weakens and destroys the excitability of a nerve, whilst, on the contrary, the passage of the *inverse* current augments it within certain limits. 3rd. To produce these effects, it is necessary that the action of the *direct*, as well as that of the *inverse* current, should be continued upon the nerve for a certain time, which will be of longer duration, according as its excitability is the more feeble.

It is very easy to show you, by experiment, the more important of these conclusions. That when the *direct* current has traversed the lumbar nerve of a frog for twenty or thirty minutes, there are no longer any contractions, either on breaking the circuit, or on again immediately closing it; while, on the contrary, after a passage of some hours, the contractions which are obtained on opening the circuit of the *inverse* current scarcely differ from those which are obtained at first when the nerve is endowed with a great excitability. This difference in the excitability of a nerve may be remarked according as it has been submitted to the passage of the *direct* or the *inverse* current, whatever be the manner in which the nerve is stimulated. When we operate with the *inverse* current upon a very excitable nerve, which has never been submitted to the passage of the current, it is impossible to discover the difference between the contraction occasioned by the opening of the circuit of this current after the lapse of a second, and that at the end of ten or twenty seconds. A difference, however, exists; but in order to appreciate it, we must act more rapidly. If the passage of the inverse current be allowed for a small fraction of a second only, we then find, on opening the circuit, a more feeble contraction than that which resulted from its circulation for one or more seconds.

This is very easily proved by the aid of a wheel which has only one metallic tooth, and upon which is applied one of the wires of a pile during its rotation. When the nerve has lost part of its excitability, we then readily see the contraction which is occasioned on opening the circuit increase according to the time that the circuit has remained closed. It is only after the lapse of fifteen or twenty seconds that the greatest effect is produced. It is, of course, unnecessary to state that these effects do not continue to increase in a dead animal.

It remains finally to speak of the influence of rest upon a nerve which has been submitted to the current. If the nerve has been traversed by the *direct* current, rest restores a part of its excitability, while, on the contrary, after the *inverse* current, it loses a part of that which it had already acquired under the influence of the current. When a nerve is very irritable, a very short rest is sufficient to restore the excitability lost by the action of the *direct* current. A similar change takes place with the augmentation occasioned by the *inverse:* on interrupting the circuit, the nerve returns almost immediately to its normal state. According to the exhaustion of the excitability in the one case, or its augmentation in the other, so will the period required for its restoration to its normal state be of longer or shorter duration.

From the knowledge of these facts, (which I have lately established by a great number of experiments,) I think it possible to give a very simple theory of the action of the electric current upon the nerves, and of the phenomena which it produces in animals.

All experiments show that the current excites muscular contraction during its passage through the nerves. This passage simply modifies the excitability of the nerve. Contraction is constantly produced by the effect of the electrical discharge, properly so called; or, in other words, by the neutralizing of two contrary electrical states, like those which are always present in the production of a spark. We all know that on the closure of the circuit of a pile, as well as on its interruption, a spark is elicited. It is precisely under the same circumstances that the current always excites contraction. It is sufficient to have once seen the contractions excited in a frog, by touching its nerve with the two armatures of a Leyden jar that has already been discharged several times by means of a metallic arc, to become conscious how small a discharge is necessary to produce this effect. A jar which has already been discharged several times can, as we have seen, produce even fifteen or twenty contractions in a frog.

On the discharge of the jar it was also seen that the contraction of the limb traversed by the *inverse* discharge ceased first, whilst that excited by the *direct* discharge still persisted.

It may, then, be readily understood why, the excitability of the nerve being diminished, the spark which is produced on the interruption of the direct current no longer excites contractions. With the inverse current the contraction is obtained by the spark on the opening of the circuit, because in the interval of its passage the excitability of the nerve is increased. This increase disappears immediately on the current ceasing to act; and this is why the spark can no longer excite contractions when the inverse circuit is closed afresh.

With these ideas we can also fully comprehend the *voltaic alternations*. When a nerve has for a long time been traversed by the direct current, and has lost its excitability, there is no longer any contraction, although there has been a spark both on the closure and on the interruption of the current. The *inverse* current restores a portion of its excitability, and its contraction reappears on opening the circuit. If we return from the action of the *inverse* current to that of the *direct* current, the contractions which we obtain during the time (always short that the nerve preserves the excitability acquired by the passage of the inverse current) will be more energetic, for we have seen that the direct discharge produces a stronger contraction upon a nerve endowed with a certain degree of excitability, than the inverse discharge.

[These principles are skilfully applied to pathology and therapeutics. M. Matteucci remarks:]

Abstracted from every idea purely theoretical, and independently of all hypothesis as to the nervous force, we may admit that in certain cases of paralysis the nerves have undergone a change analogous to that with which they would have been attacked had they been submitted to a continued passage of the direct current. We have seen that to restore to a nerve the excitability lost by the passage of this current, it is necessary to submit it to the action of the *inverse* current

I should add, in favour of the efficacy of the therapeutic use of the current, that a paralysed limb constantly experiences some coutractions when submitted either to the passage of a current or to the action of electrical discharges; and these contractions assist in re-establishing the functions of the muscle. Experiment confirms these ideas. If the two sciatic nerves of a living frog be divided, and one of the two extremities be left at rest for ten, fifteen, or twenty days, while the other is submitted two or three times a day to the action of the current, the latter will continue to contract on applying the current, but the former one will no longer do so.

I am desirous to inform you of some rules which I deem of importance in the application of the current for the cure of palsies. We should always begin by employing a very feeble current: this precaution seems to me now the more important, as I believe that I have seen a paralytic thrown into true tetanic convulsions under the action of a current furnished by a single element only. Take care never to prolong the passage too much, especially if the current be energetic. Apply the interrupted rather than the continued current; but after twenty or thirty shocks, let the patient rest for some seconds. The application of the interrupted current seems, both in practice and theory, to be more useful than that of the continued current.

A pile with Masson's wheel, or, better still, the electro-magnetic machine, is the most convenient apparatus for this purpose. Some electro-magnetic machines are at present constructed, in which the interruptions of the current are produced without the aid of an assistant.

Two ribbons of sheet lead or copper may be employed for conductors, and the extremities which are in contact with the skin may be covered with some pieces of linen saturated with salt water. In some cases, it is beneficial to use acupuncturing needles as extremities to the conductors.

The authenticated cases recorded of palsies cured by the electric treatment are already sufficiently numerous to encourage both physicians and patients to continue it with that perseverance which is indispensable in the application of the electric current, and without which it is impossible to hope for beneficial results.

It has been proposed to apply it in another malady—TETANUS; and I believe that I was the first to try its application for this disease in man. Its administration as a remedy for this disease is founded upon the following principles:—A current which circulates by jerks or short interruptions, for a certain time, in the nerves of an animal, produces tetanic convulsions; whilst a direct continued current, if sufficiently prolonged, occasions, on the contrary, paralysis. From this I felt authorised in concluding that the continued passage of the latter through a tetanized limb would destroy that condition, by bringing it, more or less, into the opposite one of paralysis. The truth of this conclusion was shown by facts. On operating upon some frogs that had been tetanized by narcotics, or by hydrocyanic acid, the approach of tetanus was prevented under the influence of the prolonged passage of the direct current. The frogs died without exhibiting those convulsions which were noticed in others that had not been submitted to the current.

The results obtained by the application of the electric current in a case of tetanus, an account of which I published in the *Bibliothèque Universelle*, in May, 1838, appear to me to prove to some extent the truth of the principle which I have now laid before you. During the passage of the current, the patient did not exhibit any violent shocks; he was enabled to open and close his mouth, and the circulation and transpiration appeared re-established. Unfortunately, this improvement was not of long duration; the disease was occasioned and kept up by the presence of foreign bodies introduced into the muscles of the leg. More satisfactory results may possibly be anticipated in cases of tetanus which had not been caused by traumatic lesion; at all events, we may derive some satisfaction in having it in our power to alleviate the sufferings which attend this cruel malady.

It has also been proposed, of late, to employ the electric current for dissolving vesical calculi and cataract. But it will be sufficient to reflect that the substances which compose urinary calculi are insoluble in water, to be persuaded that this application would be useless. Then, with regard to cataract, I should mention that by changing the position of the poles of a current which has been transmitted through a mass of albumen, we can never re-dissolve at the negative pole that which has been coagulated at the positive. It is therefore possible to *create* a cataract, but impossible to *destroy* it. Petrequin, of Lyons, has lately proposed the employment of galvano-acupuncture for the cure of certain aneurisms; this suggestion being founded upon the property which the electric current possesses of coagulating the serum of the blood, and consequently filling to a certain extent the aneurismal sac.

Lancet, August 28, 1847, *p.* 217

29.-- *On the Nervous Force.*—By Professor Matteucci, F.R.S. &c. —[In support of the theory respecting the identity of the nervous force with electricity, it has been urged that the effect of electrical irritation upon the nerves is different from that of mere stimulating agents, mechanical and chemical. The principal differences Professor Matteucci thus recapitulates:]

1. Electricity is the only irritant which has the power of exciting at one time sensation, and at another contraction, according to the direction in which it traverses a nerve.
2. The electrical current alone, when passing transversely through a nerve, does not produce any of the phenomena due to the excitability of the nerve.
3. The electric current does not produce any effects upon the nerves, or rather, it occasions neither contraction nor sensation, when its action upon a nerve is prolonged.
4. The electrical current alone has the property of modifying the excitability of a nerve, even of destroying it rapidly, if it circulate in a certain direction; and preserves or augments it, on the contrary, if it circulate in an opposite direction.
5. Lastly, the electrical current alone has the power of awakening the excitability of the nerve when much enfeebled, after a longer interval of time than any other stimulant.

These differences between the action which the electrical current produces upon the nerves, and that peculiar to the other irritants, clearly prove that the first is more simple than all the others, and hence results the analogy between the nervous force and the electric current noticed by the first observers of galvanism.

But from this analogy, should we conclude that the nervous force is nothing more than the electrical current? We should guard ourselves against admitting this conclusion, which has too often been considered as one of the experimental truths most clearly made out.

The muscular electrical current is a phenomenon which, as has been proved by experiment, owes its origin to the chemical actions which take place in the muscles: we have seen that this current exists in their integral parts, as well as between the molecules of the two bodies which enter into combination; that it circulates without any regularity, and, we may say, as Ampére supposed, that it takes place in magnetizable bodies, and that it is only by an experimental arrangement that we are enabled to discover its presence. We have also shown that the nerves have no direct influence upon the production of this current, and that their office is limited, in the experiments on the muscular current, to that of a slight conductor communicating with certain parts of the muscle.

[Matteucci's conclusion is that "*in the actual state of science, with the means of experimenting which we possess, we do not find any sign of an electric current in the nerves of living animals.*" He says,]

We may conclude that the electric current does not naturally exist in the nerves of a living animal. The laws of its propagation require conditions which are not found in the nervous system; the propagation of the nervous force is interrupted by causes which would not produce a similar effect upon the electric current.

This unknown force of the nervous system is not, then, electricity, and, much less the electric current. But what relation exists between them?

To answer these questions, I will here recapitulate, in few words, the only positive conclusion that my extensive researches upon the electro-physiological phenomena of animals have enabled me to arrive at. There certainly exists an analogy between electricity and the nervous force, which if it be not equally manifest, is, however, of the same kind as those which we know exist between caloric, light, and electricity. When speaking of the phenomena presented by the electrical fishes, we saw that the faculty which they possess of producing electricity, is directly dependent upon the nervous system. There is, then, in these animals, a peculiar organic structure, such an arrangement of parts, that by the act of the nervous force they can develop the electric fluid. You may remember the identity of the causes and circumstances which excite and modify the muscular contractions, and the peculiar function of these animals. You have seen that the property which they have of giving the discharge is under the immediate influence of the functions of the nervous system, as well as the faculty which the muscles have of contracting.

A crystal of tourmaline, when heated, develops electricity, from which we may infer that a more or less intimate connexion exists between caloric and electricity. The phenomena which you have seen in the electrical fishes prove that a connexion of the same nature unites the nervous force and electricity. Electricity is no more the nervous force than is caloric electricity. The latter is derived from caloric, owing to the form of the integral molecules of the tourmaline; the nervous force is transformed into electricity under the influence of the peculiar structure of the organs of the electrical fishes. Let us finally examine in what way electricity has the power of exciting nervous phenomena. The excitability of the nerves can be awakened, and give rise to sensation and muscular movements, in the same manner by heat, and mechanical or chemical action, as by electricity. Ought we from this to conclude these mechanical, chemical, and calorific actions exercise their influence upon the nerves after being transformed into the electric current? We have witnessed nothing which proves this hypothesis: nevertheless, if we wish to suppose an analogous change, there may perhaps be some appearance of probability in admitting it with chemical action, but not any with regard to mechanical actions and heat. There are no circumstances, in fact, in which we obtain a current by simply cutting a body. It is impossible to establish a comparison between a muscle and a thermo-electrical body. In all these actions we can only perceive different causes of a molecular movement.

Lancet, *Sep*. 4, 1847, *p*. 243.

30.—ON THE USE OF ELECTRICITY IN CHOREA.

By Dr. GOLDING BIRD, F.R.S., &c.

[Dr. BIRD relates several cases of chorea from various causes, and their treatment by electricity. The first is one in which chorea supervened upon rheumatism, as it not unfrequently does: the patient, a little girl eight years old, was admitted on November 2nd, when the disease had existed a fortnight:]

Her existing symptoms were, continual involuntary jactitation of the legs and arms, with continual contractions of the muscles of the face. She complained of stiffness in the neck, and spoke with extreme difficulty. She took vinum ferri and sulphate of zinc for some time; but, getting no better, electricity was ordered on December 2.

Dec. 8th.—The sparks had been taken daily from the spine. She now speaks and swallows without the slightest difficulty: the involuntary movements of the limbs are much diminished.

18th.—She left the hospital quite free from all trace of chorea. She remained well until June 20, 1838, when she was brought to the hospital, affected with chorea, confined now to the upper extremities. The electricity was again ordered, and she rapidly got well.

That chorea is often excited by intestinal irritation, is well known, and the possibility of curing such a disease with purgatives is notorious. It will, however, sometimes happen, that, although the exciting irritant is removed, the effects on the nervous system remain, and the chorea persists. In such cases electricity soon effects a cure.

[In the next case, that of a boy aged 12, the chorea was of ten months duration, and appeared to have arisen from the irritation of tapeworm. He took purgatives and sulphate of zinc for two months without benefit, and on January 6th, Dr. Bird says:]

His symptoms are the following:—involuntary movements of almost every muscle, so that he had considerable difficulty in walking, and was quite unable to support himself on one leg; his arms were in constant motion, and he had so little control over his fingers that he could not retain anything in his grasp, even for an instant; the muscles of his throat were also in a constant state of involuntary motion, so that his articulation was imperfect, and his words frequently unintelligible; his head was constantly moving, being, with his neck, alternately thrust forward, and retracted in a jerking manner. Sparks were ordered to be taken from the spine on alternate days.

Jan. 9th.—Much improved. Involuntary movement of the legs and arm much less.

13th.—Rapidly convalescing.

Feb. 9th.—Presented well.

Where chorea exists in girls as a result of the disturbance of enervation from amenorrhœa, anæmia either not existing or cured by iron, it is a good practice to transmit a few shocks through the uterus, in addition to the sparks from the spine. In this way the catamenia will be generally excited, and the rapidity of the cure be increased.

E. R. aged 16, of previous good general health, menstruated, for the first time, three months ago. After the disappearance of the discharge, she became the subject of involuntary movements of the right arm and hand: these have increased in intensity up to the present time. She appeared at the electrical room in July, 1838: sparks were taken from the spine, and a few shocks passed through the pelvis. After the electricity had been applied five times, the catamenia occurred, and the chorea vanished. She continued well until September 19th, when, as the discharge had not appeared at its proper time, she again applied at the hospital. A few shocks through the pelvis excited the deficient functions, and she left quite well.

I have never seen any good effects to result, in cases of chorea, from the transmission of electric shocks along the affected limbs: on the contrary, in every instance the involuntary movements have been increased, often to an alarming extent; and, if employed when the patient was convalescent, it has invariably aggravated every symptom, and often rendered the patient as bad as when first admitted under treatment.

[Dr. Bird then relates several cases of partial convulsive movements: in one, confined to the right arm and shoulder, and being the result of fear; in another, affecting the jaw, after reduction of a dislocation; and in a third case, affecting chiefly the sterno-mastoid muscles. In all these, after other treatment had been tried in vain, electricity effected a cure. Dr. Bird thus sums up:]

The results of my trials of electricity in chorea may thus be deemed very satisfactory. I am quite aware others have not met with the same success, and this is easily accounted for, in their merely seeking the aid of the remedy in cases which obstinately resisted all other means, instead of using it as the primary remedy. Of all remedies I have hitherto used, except perhaps the sulphate of zinc, electricity seems most successful in chorea, and I have invariably employed it wherever I possibly could, since I first saw it employed by my friend and colleague Dr. Addison, who, I believe, first suggested its use in this disease.

It might now be inquired, in what manner does electricity cure chorea? Having reflected much on this subject, I have adopted the conclusion that, as a counter-irritant over the spine, it is more valuable than other remedies of this class, from its ready application, the intensity of its action, and the capability of renewing it daily. It exerts a very important influence over the spinal nerves, and thus aids in submitting them to the dominion of the will. In addition to this, I believe the remedy acts by exciting powerful contraction of the muscles, and thus aids in overpowering their irritability. Indeed, in this way, even independently of all countervention, I have more than once seen electricity cure chorea. A remarkable instance of this is at this moment in Guy's. A girl, æt. 14, was admitted under my care, in Miriam ward, with obstinate universal chorea. I never met with a case in which there was more reason to suspect organic mischief, and which so completely resisted all remedies, the chorea movements continuing long after the restoration of her general health. I therefore left off all treatment, and requested my clinical clerk to pass a series of electro-magnetic shocks through the arms. In a few days the movements lessened, and in a few weeks quite ceased.

Medical Gazette, June 18, 1847, *p.* 1065.

31.—*On the Use of Electricity in Paralysis.*—By Dr. Golding Bird, F.R.S., &c.—[Every one must have found success and disappointment to be alternately the result of the use of electricity in paralysis. Dr. Bird gives us an account of his experience in this matter. He says,]

Paralysis is so general a term, indicating so vast a variety of pathological conditions, that no opinion whatever can be given of the utility of the agent in question without being more precise in our definitions. One general remark, however, I may venture to make, that under no circumstances whatever have I ever seen any modifications of electricity of use in the treatment of paralysis attendant with permanent contractions; a condition so frequently observed in the upper extremities.

Practically I would divide the forms of electricity presented to us for treatment, into the following:—

1. Cases of paralysis from the poison of lead.
2. ,, rheumatic paralysis confined to the limbs.
3. ,, paralysis limited to portio dura.
4. ,, following local injury to a limb.
5. ,, hysterical.
6. ,, dependent upon persistent cerebro-spinal lesion.

I now propose to consider *seriatim* the result of the use of electricity in its various forms in these different varieties of paralysis: and first of cases of dropped hands, as—*Paralysis from lead.*

[Dr. Bird gives three cases in illustration of this disease. The subject of the first, æt. 19, had been engaged as a compositor for five years, and his symptoms, viz,, paralysis of the extensors of both hands, were of three weeks' standing; he had also amaurosis, which had been coming on for a year. Having become improved in general health, by medical treatment, electricity was resorted to.]

Sept. 2.—Sparks from the cervical and dorsal regions of the spine thrice a week. The papular eruption was produced with difficulty. He continued this treatment, with marked improvement, for some time; when, from an attack of bronchitis, he was confined to his bed.

Nov. 8th —Resumed the electrical treatment.

[illegible]7th.—Gradually acquiring more power over the paralyzed muscles; and his pupils, previously nearly insensible to light, now contract and dilate readily, although he remains completely blind.

Jan. 12th.—Paralysis completely cured; the amaurosis remains unrelieved.

C. B., aged 29, by trade a cooper, whilst at work ten days before, was seized with a sudden feeling of loss of power in the right wrist and hand, which he attributed to his having been previously engaged in mixing white paint. On admission into the hospital, in August, 1840, the paralysis of motion of the extensors of the affected hand was complete: general health tolerably good. Ol. ricini p. r. n., sulph. precip. ʒ i., t. d. Weak shocks down the arm, from the spinous processes of the cervical vertebræ to the fingers.

Sept. 11th.—Has rapidly improved, and is now able to resume his work.

In cases of the dropped hands of painters, the conditions beforementioned being borne in mind, the electric sparks drawn from the region of the cervical and dorsal vertebræ are generally efficacious in at least aiding, if not effecting, a recovery. I have generally, also, directed them to be drawn from the paralyzed parts; and, in recent cases, small shocks transmitted along the course of the affected nerves, have considerably accelerated convalescence: but in chronic cases I have repeatedly seen a cure effected by drawing sparks from the spine, on alternate days, for weeks, after shocks had been passed along the paralyzed parts in vain. The following is a case of this kind:—

W. C., aged 36, a plumber, admitted November 26th, 1840, first noticed, three years before, a numbness of the right hand, which terminated in total paralysis of the extensor muscles. A year ago, the left wrist became similarly affected, and he is now unable to raise either hand.

Nov. 26th.—Sulph. precip. ʒ i. t. d. Shocks down the arms on alternate days.

Dec. 16th.—No improvement. He has no more power over his wrists than on admission. I directed sparks to be taken from the spine, thrice a week for six or eight minutes.

Jan. 2nd.—Has gained power daily, and soon after this date was able to resume his work.

[We have next an account of some cases of rheumatic paralysis treated by electricity, which is thus prefaced by Dr. Bird:]

Under the term rheumatic paralysis, I would include all cases in which the palsy followed the sudden application of cold, independently of any evidence of central spinal lesion. Such cases are common enough; they are sometimes attended with peripheral pains of a rheumatic character, and even occasionally with redness and tumefaction of the joints, which, however, is always evanescent. The line of demarcation between rheumatism and some of these forms of eccentric paralysis is very ill defined, and, indeed, lends considerable support to the idea of a close connection between rheumatism and some lesion of functions over which the true spinal system presides.

R. E., admitted September 27th, under the care of Dr. Addison. It appeared that ten months previously, whilst on board a trading vessel off the coast of Africa, he became the subject of fever, for which cold affusion was copiously used; and to this he attributes the paralysis of the right forearm and both hands, which appeared when convalescing from the disease. On admission, he was quite unable to move the paralyzed limbs: his general health appeared excellent.

Sept. 27th.—Sparks thrice a week, from the spine and paralyzed muscles.

Nov. 14th.—He has improved daily; and being now in possession of full power over the previously paralyzed limbs, he was this day presented cured.

J. Y., aged 15, admitted into the hospital in the middle of January, 1837. Stated that sixteen months back he suffered from pain and swelling at the upper part of the neck: this was followed, in two months, by loss of power over the right arm; for which he continued under treatment during nine months without deriving any benefit, so far as power over the paralyzed limb was concerned. It was then determined to try the effects of electricity; and in the middle of August twelve shocks were ordered to be passed from the region of the cervical vertebræ to the fingers of the right hand, daily.

Oct. 8th.—Has gradually improved, and has now considerable power over the affected limb.

20th.—Recovered completely the power of moving the arm; and was discharged, cured.

W. E., aged 30. This man had been employed in loading and unloading cargoes of coasting-vessels at one of the wharfs; and a few weeks ago, whilst unpacking salmon, the cold water from the melting ice burst from one of the packages and drenched him completely. He took no notice of this; but on the following day the little finger of his right hand became numb: this gradually increased; and in a week he lost all power over both his hands, sensation remaining unaffected.

Oct. 19th, 1840.—Sparks from the spine and the affected hands.

Under this treatment he rapidly improved; and after attending a few times, he became so much improved as to be enabled to return to his work.

The following case, recently under my care at Guy's Hospital, is a good illustration of rheumatic paraplegia thus treated; I give it in the words of my zealous clinical reporter, Mr. Hinton.

J. R., æt. 58, labourer, married; comes from the Hundreds of Kent; his work consists chiefly in cleaning out ditches, &c.: in his younger days he lived freely, but for many years past he had led a temperate and regular life; general health pretty good; he has had ague many years ago, and several fevers, doubtless of an intermittent character, as he has lived in the Hundreds for nearly forty years.

To his knowledge none of his relations were ever affected with paralysis; ten of his children have died, and several of them apparently with some phthisical affection. He has always noticed that his feet perspired very freely. In the latter part of the month of August last, he worked for three successive days in a ditch; during the whole of which he was knee deep in a running water, and from this time all signs of perspiration about the feet disappeared, and to use his own expression, "he found it strike to his limbs." He soon perceived that he was gradually losing the power of motion in the lower extremities, chiefly the right, and his feet always felt cold. His general health, however, has not suffered.

He says that his legs feel very heavy, and he compares it to the having a great weight attached to each foot. The flexor tendons of the knee joint are somewhat tense, and he moves with great difficulty. There is slight loss of sensation, and a feeling of numbness. Urine is clear, of natural colour, unaltered by heat: he passes about Oijss. in twenty-four hours; sp. gr. 1011.

[This patient was treated by shocks passed from the dorsal vertebræ to the feet, three times a week, and was cured in five weeks.]

Paralysis of the portio dura is not an unfrequent affection, and probably bears considerable relation to the rheumatic paralysis which has just occupied our attention. It is unnecessary for me to allude to the importance of not committing the serious error of confounding this disease with paralysis depending upon cerebral lesion. It is impossible that any I have now the honour of addressing could ever fall into such a fearful error. Yet I dare say it has fallen to the lot of many of my auditors to be called to cases of this kind after the patient has been bled, cupped, blistered, mercurialised, and his health and constitutional power shattered by such unnecessary treatment; a treatment for which the most profound ignorance hardly affords an excuse. The history of the case is sufficiently intelligible. A person previously in health exposes one side of the face to a little draught of air; as by sleeping near a window having a broken pane, or travelling in a railway carriage with a half-open window. The result of this is more or less pain and stiffness in the side of the face, followed soon by paralysis of the facial nerve; the non-affected side being exceedingly distorted, from the antagonist muscles becoming palsied. Sensation is never influenced, the affection being strictly and exclusively limited to the seventh pair of nerves. When consulted early in the affection there may be some evidence of inflammatory irritation in the course of the *pes anserinus* and its branches, demanding appropriate treatment. Very soon, however, this irritation subsides, and, as is well known, the patient, if left alone, generally, with sufficient time recovers. Still, however, the convalescence involves much time, and in many instances months elapse ere the symmetry of the face is recovered. In such cases the stimulus of electricity remarkably aids the cure: I say the *stimulus* of electricity, because in such cases it appears pretty certain that the agent in question acts merely as a local excitant, stimulating the paralysed muscular fibres, and arousing their normal irritability, and once more placing them under the dominion of the will.

In these cases it scarcely matters what form of electricity is applied, so long as it is sufficiently effective to induce contraction of the paralysed muscles under its influence: weak shocks from a charged jar, the passage of a series of currents from an electro-magnetic machine, or the direct irritation produced by drawing a series of sparks from the cheek (when the patient is insulated and connected with the prime conductor of an electrical machine,) seem to answer equally well. It is unnecessary for me to trouble you with any elaborate history of patients thus treated; a brief glance at two or three will be sufficient as an illustration of the subject.

A barrister, in large and influential practice, became the subject of paralysis of the portio dura on the left side, from exposing the cheek to a current of air from a broken window in a crowded court. He applied to me in a week or two afterwards, the paralysis continuing, and the distortion of the face hideous. As his general health was excellent, I ordered him to apply the currents of an electro-magnetic machine to the paralysed cheek for a few minutes daily; this was done for him by his servant, and in a fortnight all distortion vanished.

A young gentleman, 16 years of age, became paralysed from the influence of a draught of cold air on the cheek while asleep. I saw him two or three days afterwards: there was no local tenderness in the course of the *portio dura*, but the distortion was extreme. I requested his father, himself a zealous cultivator of physical science, to place him upon an insulated chair, and connecting him with the electrical machine, to draw sparks from the affected side; this was regularly done daily, and he rapidly recovered.

An instance lately occurred to me in the person of a clergyman, who had suffered from paralysis of the seventh pair of nerves a dozen years previously, and the paralysis had never completely disappeared; the face, when I saw him, was not symmetrical, the saliva often flowed from one corner of the mouth, and his intonation was impaired. He set sedulously to work with the electro-magnetic current, and I saw him some months afterwards perfectly restored.

In paralysis following local injury, the aid afforded by electricity depends upon the nature of the injury inflicted. If a blow, or other applied violence, has been sufficient to injure the structure of a nerve, no benefit can accrue, or, indeed, can be expected, from the use of electricity. But if, on the other hand, the paralysis has been merely the result of concussion of the nerves, &c., of some pressure which, although severe, did not disorganise the nervous fibres, the remedy in question is often of service. In such cases I would advise the application of electro-magnetism from the *single current machine* to the paralysed limb, taking care to transmit it in the course of the *vis nervosa*, or, in other words, in the direction of the nervous ramifications. I think I have seen benefit thus obtained in the weak and feeble state of a limb following after forcible reductions of a dislocation; as of the head of the humerus into the axilla.

In hysterical paralysis, I feel a great difficulty in expressing an opinion regarding the remedial influence of electricity, in consequence of the nearly impracticable task of distinguishing between the mere assumption, and the reality, of existing paralysis in hysterical women. It is really difficult to believe, that girls and women, whose very means of living decently, much less the possession of the comforts of life, depend upon their being enabled to exert themselves, should simulate paralysis; and yet we know that such is too frequently the case. The morbid state of mind which predisposes to such impostures presents a curious enigma for solution. Admitting the existence of such cases of deception and imposture, we too often run the risk of becoming uncharitable, and to consider many forms of functional paralysis as purely simulative. It is not for me to enter into the interesting problems of the vagaries of such cases: I will content myself with pointing out the high importance of the electric shock, or interrupted current of an electro-magnetic machine, in such cases. If the patient simulates paralysis (and, when she does so, it much more usually is in the form of rigidity of a limb than any other) she can seldom resist the pain and surprise of the shock, and the previously rigid limb will generally instantly move. On the other hand, in hysterical paralysis, where the affection, however excited at first, is now uninfluenced by the patient's will, there are few curative remedies so important as the electro-magnetic current. I have seen a young woman the subject of hysterical paraplegia for months, move the limbs and walk, although unsteadily, in an hour or two after the application of electricity; and very lately, another was in Guy's Hospital under my care with paralysis of the right arm, in which the same successful results occurred. In neither of these cases could I detect simulation, and not only was there no motive for it, but the interests and desires of the patients were opposed to it, for the paraplegic girl was prevented from becoming a wife by her paralysis, and the young woman with the palsied arm had an aged mother, to whom she appeared deeply attached, depending upon her exertions for her means of support.

[With respect to *paralysis from organic lesion of the cerebral or spinal centres*, Dr. Bird gives the following as his conclusions:]—

1st. When the lesion is recent, the cause producing the paralysis still active, electricity and its modifications not only do no good, but often do much mischief. I would give an especial caution where rigid arteries are known to exist, or ramollissement of brain suspected. In more than one example of these affections I have known a fatal apoplectic fit quickly follow the use of the remedy in question.

2dly. In paralysis accompanied by rigid flexure of the thumb or fingers, I have never seen electricity do any good.

3dly. In cases of paralysis depending upon some physical cause, as effusion or pressure from other sources, when the original cause has been removed by time or treatment, or both, the palsy remaining; electricity, and especially the electro-magnetic form of it, is of the utmost value. These cases are certainly not uncommon, and to them the old adage of "sublata causa, tollitur effectus," does not by any means apply. A patient has, for example, congestion, influencing chiefly one side of the brain: the arm, or leg, or both, become paralysed. After some time the circulation is equalised, the pressure is removed, and the paralysis, if the case be recent, disappears. If, however, the congestion has been of longer duration, the palsy does not disappear with the removal of the exciting causes, and then the passage of the single electro-magnetic current in the course of the nervous ramifications becomes invaluable. Often in a few days the patient recovers his power. In such cases of chronic paralysis, let me beg of you not to give up the electrical treatment too soon. Remember, that if the paralysis be long continued, some of the new tissue deposited in the palsied muscles, in accordance with the recognised laws of nutrition, has never contracted or moved under the influence of the will, and a patient's persistence in the electrical treatment will be necessary before the new fibres become roused into obedience to the *vis nervosa* propagated along the nerves by the volition of the patient.

Medical Gazette, June 18, 1847, *p.* 1068.

32.—ON ATROPHY OF THE MUSCLES, IN PARALYSIS, AND ITS TREATMENT.

By JAMES PAGET, Esq Professor of Anatomy and Surgery to the Royal College of Surgeons, &c.

The condition in which atrophy of the muscles by far most commonly ensues is inaction. Whenever muscles lie long inactive.

they either waste or degenerate; and this whether the inactivity depend on paralysis through affection of the nervous centres or fibres, or fixation of the parts they should move, or any other cause. The degenerative process may be so rapid that, in a fortnight, muscles paralysed by hemiplegia may present a manifest change of colour.

Now, the course of events in these cases appears to be, that the want of exercise of the muscle, whether paralysed or fixed at its ends, makes its due nutrition impossible; and the atrophy thus brought about is the cause of the loss of irritability of the muscle, *i. e.* of the loss of its capacity for contracting.

For the experiments of Dr. John Reid plainly shew that loss of contractile power in a paralysed muscle is due, directly, to its imperfect nutrition, and only indirectly to the loss of connection with the nervous centres. When he divided the nerves of a frog's hind legs, and left one limb inactive, but gave the muscles of the other frequent exercise by galvanising the lower end of its nerve, he found (to state the case very briefly) that at the end of two months the exercised muscles retained their weight and texture, and their capacity of contraction, while the inactive ones (though their irritability, it might be said, had not been exhausted,) had lost half their bulk, were degenerated in texture, and had lost some of their power of contracting. In other cases, too, he found the loss of proper texture always ensuing in the inactive state before the power of contraction was lost.

And it is doubtless the same in man. A muscle which, by no fault of its own, but through circumstances external to itself, has been prevented from acting, becomes shortly incapable of acting even when the external obstacles to action are removed. Hence, I think, we may deduce a rule which ought to be acted on in practice. When a person has had hemiplegia, one commonly sees that long after the brain has, to all appearance, recovered its power, or even through all the rest of life, the paralysed limbs remain incapable of action,—as motionless as at the first attack. Now it is not likely that this abiding paralysis is the consequence of any continuing disease of the brain: rather, we must ascribe it to the imperfect condition into which the muscles have fallen during their inaction. So long as the state of the brain makes voluntary action impossible, the muscles are suffering atrophy; then, when the brain recovers, they are not in a state to obey its impulse, they are degenerate; and thus, their inaction continuing, they degenerate more and more, and all remedy becomes impossible. If this be true, Dr. Reid's experiments suggest the remedy. When muscles are paralysed through affection of the nervous system, we ought to give them artificial exercise: they should be often put in action by electricity or otherwise; their action, though thus artificial, will ensure their nutrition; and then, when the nervous system recovers, they may be in a condition ready to act with it,

Medical Gazette, Aug. 6, 1847, *p.* 228.

33.—*Influence of Atmospheric Electricity on the System.*—By M. PALLAS.–M. Pallas, chief physician of the army in Africa, asserts that the greater number of diseases, particularly "neuroses," are due to the influence of diffused electricity, the principal sources of which are thunder-clouds and marshy soils. By their geographical constitution, and their effects upon the human organism, marshes (says M. Pallas) present the closest analogy with the galvanic battery. Their deleterious effects are formidable in exact proportion with the quantity of saline or organic matter contained in the waters; and observation proves that diseases developed by the influence of marshy emanations are at first of a nervous nature: hence one of the methods which will be most efficient in preventing intermittent fever and neuroses, must be electrical isolation of chairs, beds, and tables from the soil, by glass supporters.

Medical Times, June 19, 1847, *p.* 333.

34.—*Electro-Magnetism in Tinnitus Aurium.*--By Dr. KRAMER,&c.—[The following are the results arrived at by Kramer and others, as to the application of electro-magnetism in tinnitus aurium, &c.]

1. The magneto-electric or electro-magnetic current acts decidedly as an excitant on the organ of hearing.

2. This action is strongest when there is an affection of one or both auditory nerves, and the magneto-electric current is conveyed from the mouth of the Eustachian tube to the external auditory passage of the same ear, instead of from one auditory passage to the other.

3. The exciting action of magneto-electricity is manifested by convulsive twitchings, pains in the ear, momentary increase of the hearing distance (which, however, very soon diminishes again, or, though it continues some time, it does not amount to any great degree,) and by aggravation of the tinnitus, either at the moment or some time after the sitting.

4. Magneto-electricity or electro-magnetism does not thus appear to possess any peculiar strengthening action on the auditory nerves. On the contrary, great care is necessary in the employment of the remedy not to over-excite the affected auditory nerves.

5. Hitherto the results of experience as to the use of the rotation apparatus in diseases of the ear are not encouraging. If, however, for any reason it be had recourse to, nervous deafness is the complaint for which it is most adapted; but that the complaint is nervous deafness ought to be first determined by careful instrumental exploration of the outer and middle ear.

6. The application of magneto-electricity ought always to be made with the greatest precaution and in the mildest manner, and always given up whenever, notwithstanding every precaution, decided aggravation of tinnitus takes place, and improvement of the hearing distance is not effected, or, when effected, it is again lost.

British and Foreign Medical Review, July, 1847, *p.* 40.

35.—ON HYDROPHOBIA.

By Bransby Cooper, Esq., F.R.S., &c.

[The symptoms are, first, pain and numbness at the original wound, with tingling in the limb: sometimes the cicatrix opens, the wound is hot and throbbing, and there is sanious discharge. The patient has great depression of spirits, and feeling of impending danger. Then the tetanic symptoms set in: stiffness of the neck and throat, hurried and irritable manner, difficulty and dread of swallowing, much aggravated by the slightest noise, the agitation of fluid, or a current of air: the mind becomes affected, and he dies in from twenty-four to seventy hours. Mr. Cooper tells us:—]

As prevention is always better than cure, I will now speak to you of the plan which should be adopted when you are called upon to visit a person who has been bitten. If there be reason to suspect that the dog was rabid, or even when there are no means of ascertaining the actual condition of the animal, the part should be immediately excised; and, to be certain that the whole extent of the poisoned surface is removed, Mr. Hunter recommended that a probe should be passed to the very depth of the tooth-impression, and the knife passed behind it, so as to remove the probe and flesh together. Sometimes, however, this may be impracticable, from the vicinity of large vessels, in which case the knife should be used as far as it is safe, and caustic applied to the rest of the surface. I believe it would be still better to apply the caustic even before the knife is used; and, if injected in solution, it would be sure to penetrate to the very bottom of the wound, and, by the change of colour, form a good guide to the surgeon for the certain excision of the whole; while, at the same time, it would render abortive any of the virus that might be left in the wound, and so prevent its contaminating the blood that flowed in consequence of the operation.

If such treatment be adopted immediately after the bite, there can be but little fear of future ill effects. It is supposed by some that this operation may be beneficially performed at any period prior to that of recrudescence, as it is believed that the constitution is not generally affected until the period of incubation is completed. I should doubt, however, that much reliance is to be placed upon this view. If a person be bitten by a dog under such circumstances that there is no reason to suspect his being in a rabid state, but if there be, on the contrary, a thorough conviction that the bite was one of just retaliation on the part of the dog, I should not recommend the extirpation of the wounded part, for the performance of the operation implies the surgeon's fear of contamination, and can but impress his patient with all the horrors of impending danger. Besides, the very excision may lead to a high degree of constitutional irritation in excitable people, and incur a risk beyond what the case justified. Only yesterday, a pupil consulted me, who had been bitten by his favourite dog, but under an aggravation which rendered it a natural result; he flogged the dog, which ran under the bed, when, laying hold of him to pull him from his hiding-place that he might continue his punishment, the dog bit his fingers. In this case, as the habits of the animal remained unaltered, and as he had lived with his master two days after, manifesting his natural docility, I would not remove the bitten part, particularly as I had reason to fear, from the constitution of the patient, that I should thereby inflict a greater injury, on him than he had already sustained.

As to the medical treatment of hydrophobia, nothing can be said to offer any rational hope of alleviation of the symptoms. All the most powerful remedies in the Pharmacopœia have proved equally ineffectual—opium, mercury, strychnia, prussic acid. Indeed, it is useless to enumerate the category of medicines which have been employed, as no preference can be attached to one, where all have proved useless. Bleeding and cold affusions have proved equally ineffectual.

Medical Gazette, July 23, 1847, *p.* 133.

ORGANS OF CIRCULATION.

36.—ON A NEW CRITERION FOR THE REGULATION OF BLOOD-LETTING.

By Dr. POLLI.

1. Every time a large abstraction of blood is practised, so as to lead to lipothymia, *the last portion* of that removed always coagulates with *greatest promptitude*, whatever may have been the time occupied by the first portion in coagulating. 2. Whenever, on the contrary, upon a person suffering from sanguineous congestion of the nervous centres, asphyxia, apoplexy, &c., bleeding is practised, and, by its use, the vital functions are again set at liberty, the last portion of the blood so removed coagulates *much more slowly* than that which was first emitted. 3. It suffices to interrupt in some manner the course of the blood in the vein, or to diminish, by means of a ligature applied to an extremity, the irradiation of the nervous power, in order to secure the speedy coagulation of blood, which, a short time after, owing to the obstacles being removed, may re-acquire the power of remaining long without coagulation. 4. In diseases decidedly of an inflammatory and grave character, during which for the safety of the patient repeated bloodletting is requisite, if, on the occasion of every venesection, the coagulation of the first and last portions drawn be examined; it will be found that at the beginning the coagulation of the latter portion takes place *subsequently* to the former, and continues to do so in an equal ratio to the development of the morbid process, until this reaches its

height. From this point, however, as the disease commences declining, the coagulation of the blood of the latter portions *precedes* that of the former. 5. In the cases in which abstraction of blood has been desisted from for some days, when the *slow coagulation of the last portion* taken announced a continuance of the phlogistic increment and the tolerance of bloodletting, it has become necessary to resort anew to this therapeutical agent, which can in no case be laid aside with the ready cure of the patient, unless the latter portion of the blood manifests an opposite disposition to that now pointed out. 6. That in opposite cases in which the abstraction of blood is persisted in, *notwithstanding its rapid coagulation* after all the venesections and during the two extreme periods of the same one, it has to be speedily renounced in consequence of the symptoms of intolerance which manifest themselves; and in those few unfortunate cases in which blood-letting is obstinately persevered in under the guidance of fallacious symptoms, vital exhaustion cuts short the career of the patient much more rapidly than would have done the course of the disease.

It results then from these observations that the maintenance of the fluid state of the blood, comparing one bleeding with another, or different periods of the same bleeding, is a measure of the vital energy proper to the individual, and of that brought into play by the morbid process; and that hence may be determined tolerance and indication of blood-letting; as on the other hand a prompt coagulation of the blood announces diminution of vital energy, or its exhaustion by the pathological action; and in every case that the power governing the phlogistic or morbid vital movements is lowered.

The criterion is of easy application, the first and last portions of blood drawn being separately collected in glass vessels, and placed at rest beyond the influence of disturbing causes. As the difference of time employed by the blood in coagulating depends both upon the condition of the individual and the amount of blood drawn, the criterion in question may not only serve as a guide in judging of the propriety of bleeding in a certain contingency, but may determine the exact quantity to be drawn, and the period of its repetition.

Let an individual be bled to faintness, and you will always have the last portion of the blood rapidly coagulated, and consequently deprived of buffiness. Receive the blood into six, eight, or ten small recipients, of a similar form and nature, and the coagulation in the first will be in exact relation with the disposition of the fibrine to maintain itself in the liquid form proportionately to the particular physiological or morbid state of the organism; while in the last, such disposition will become gradually paralysed and almost destroyed from the gradually increasing effect of the abstraction itself. By contemplating this phenomenon, which is always a result bearing proportion to the two influences above alluded to, we are enabled to lay down a rule for in some cases practising abundant blood-letting at one time, in others practising it at intervals, or in small quantities; or again simply interrupting its flow once or twice for some minutes during the abstraction, &c.—accordingly as we may be desirous of obtaining a sudden subdual of the morbid exuberance of the vascular activity, or of securing a copious depletion without too great exhaustion of the strength, or the functional disturbance ensuing upon lipothymia, which may injuriously affect the regular course of some affections.

From the different coagulation of the various portions of blood we may, moreover, as we have said, measure the *intensity of the inflammation* and the *tolerance of the individual;* or, as others would express it, we may measure the morbid capacity and the amount of diathesis. There may, indeed, be a case in which the first portion of blood drawn indicates by its very slow coagulation a very high pathological condition, while the last portion announces in its rapid coagulation that the emission of blood has completely lowered the powers. This phenomenon may be dependent upon the existence of a very circumscribed, though a very intense affection, or upon exhaustion induced in an individnal primarily possessed of very feeble powers of organic re-action; and in such a case bleeding must be most reservedly employed, and frequently entirely rejected, for the reason that it is a lesser danger to leave the disease to proceed unchecked, than to have recourse to means which remove it and the patient together. This difficult pathological circumstance, which a celebrated Italian physician justly compares to an *island of fire in a sea of ice*, is already known to practitioners as one which requires in the use of antiphlogistic measures great regard to be paid to the failure of the general strength. But, unfortunately, it has not always been easy to establish its diagnosis in time, or before unadvisably energetic therapeutical procedures have been put into force. But the criterion I propose informs us of these two opposite conditions co-existing in the same individuals, and measures their degree with a facility and security that no method of investigation hitherto recommended in these difficult cases can boast of.

To the objection that the criterion only comes into operation after the abstraction of blood, Dr. Polli observes that in ordinary inflammatory diseases, the repetition of the bloodletting is the point to be enquired into; and that, even those rare cases in which the diagnosis is very obscure, and in which a first bleeding might prove the cause of safety or of death, no harm whatever, and much good, would result from a very small *exploratory* venesection, and made in the view of obtaining the desired information. Such, consisting of one or two ounces, received in two separate vessels should be instituted in all obscure cases of this kind, before resorting to an ordinary venesection. "Perhaps even those small bleedings should be practised in all diseases indistinctly as a means of exploring the condition of the blood, for the same reason that, since auscultation has been employed upon all patients, it has not unfrequently revealed latent morbid conditions, to which the attention of the practitioner might otherwise not have been called until a more remote and a too late period." A small subtraction which can do no harm to the economy, will yet depict to us the true characters of the vital condition of the tissues, and of the amount of the exaltation of the vascular activity and nervous function. It often suffices for the discovery of those circumscribed and concealed phlegmasiæ, which, frequently not spreading to such organs as would furnish external symptoms of their existence, pursue their undermining course until they have reduced the viscera they affect to such a condition, that some acute contingency at last suddenly betrays their formidable character.

The observations already made upon the indications the physician may draw from the observation of the coagulation of the blood, and the clinical cases adduced in confirmation and illustration of this criterion, clearly prove that its value rather lies in its enabling us to fix a limit to the abstraction than in encouraging its continuation. And, in fact, if we are not deceived, the comparison of the coagulation of the first and last portions may, independently of the presence of all other symptoms, distinctly indicate whether the evacuation will tend to normalize the vital powers of the functions of the organism, at one time liberating them from oppressive congestions, and at another from the obstacles presented by the excessive and unbalanced action of the nerves, or whether it attacks them with all its impoverishing effects, and directly exhausts the forces necessary to the carrying on of life. Of the two indications which this sign offers the last is not only the most important, since its neglect almost amounts to a fatal result in the disease, but is also the most attainable, or at least the best supported by facts. The cases referred to show that, if the coagulation takes place with a certain celerity, and this manifests itself repeatedly, and goes on increasing with the bloodletting, we cannot persist in the measure without losing the patient; while the patient hardly ever dies when it is suspended prior to the coagulation having acquired great rapidity.

It is not necessary for the complete cure of an inflammation to continue the bleedings until the blood no longer gives any buffiness; while it is absolutely necessary to cease the emission when the blood coagulates more rapidly than in the normal state. The production of buffiness of blood of equal coagulability, as shown in the former series, is always rendered more easy and in larger quantity after a certain number of bleedings than at first, in consequence of the diminished density which the blood acquires; which naturally always much diminishes the phlogistic expression and the consequent indication for bleeding drawn from the crust that covers the blood after a certain number of emissions.

Med. Chirurgical Review, October, 1847, *p*. 310·

37.—ON PERICARDITIS.

By Dr. **Shearman**, Rotherham.

[On account of the frequent occurrence of pericarditis, its dangerous nature, and the numerous important diseases,—endocarditis, valvular disease, atrophy, hypertrophy, dilatation,—which are frequently its consequences, it is highly important that its detection should be easy, and its treatment simple and straightforward.

Although the pericardium is composed of two distinct kinds of tissue, yet as they are intimately connected, and supplied by the same vessels, the character and products of the inflammation depend more upon the condition of the blood, than upon the nature of the tissue primarily affected. Dr. Shearman says,]

If the blood be excessive in red particles, as in very robust and healthy persons, there will be coagulating lymph, serum, and blood exuded; if deficient in red particles, as in anæmic, lymphatic and leucophlegmatic subjects, tubercular deposits will be formed; if fibrin predominate, the serous membrane will be covered with a thicker and more adhesive layer of lymph, and of the most plastic character. But the blood may be so altered in quality, and the quantity of its salts and red particles so much increased, as may produce even osseous deposits. The fibrin may be so low in character as to allow only *aplastic* lymph to be secreted, in which case very slight, if any adhesion, would take place; and pus, curdy matter, yellow tubercle, &c., would be deposited. It might be *euplastic* and become highly organized; or *cacoplastic*, and susceptible of only a very low degree of organization, particularly in the chronic stage, thus giving origin to fibro-cartilage, grey tubercle, &c. It therefore depends on the character of the blood as well as upon the character of the membrane inflamed, what the product of the inflammation will be; and this easily accounts for the various statements of many of the old authors,—of bony, bloody, purulent, curdy, fibrinous, and various other effusions having been found in cases of pericarditis.

It is very evident that some of these products of inflammation are much more adhesive in their nature than others, and I have taken the opportunity of naming all, for the purpose of giving the greatest latitude possible to the difficulty this will give us in diagnosis. But it is well known that pericarditis, like rheumatism, is a disease of a highly inflammatory nature, and oftener attacks those whose blood is loaded with red particles and fibrin, than the weak and anæmic; and those who have had the most extensive experience in examining such cases after death, agree in saying that *adhesion of the pericardium* is by far the most frequent result.

The first and immediate effect of pericarditis is effusion of a small quantity of coagulating lymph and serum on both sides of the pericardium; this increases according to the activity of the attack, or the success of remedies. It may go on to such an extent as to bulge out the bag of the pericardium enormously, or it may stop short, and only produce so much mischief, as to impede the smooth motion of the heart in its natural capsule. There may be the other deposits mentioned before, but there *must* be both effusion of lymph and serum.

It is generally supposed that when lymph is effused in pericarditis the pericardium becomes adherent to the heart, the serous cavity being permanently obliterated, either in part, or altogether. Dr. Shearman, however, has seen three cases in which patients labouring under unequivocal pericarditis having recovered under treatment, and having subsequently died of some other disease, the pericardium in each case was found after death to be unadherent throughout.

The symptoms of pericarditis are a peculiar distressed appearance, palpitation, oppression at the epigastrium, catch in the breathing, dry cough, pain, increased on pressure in the region of the heart, stiffness and pain in the left shoulder, &c. Before auscultation was known, we could not, even with all these symptoms distinctly diagnose pericarditis; but,]

Now, with the aid of the ear, when, with even *some* of these symptoms, we find the *attrition murmur*, Dr. Latham says the disease cannot be mistaken for anything but pericarditis.

Before the true *attrition* or *friction-sound* is heard, there is almost always, and generally for some days, a kind of *clanging*, *harsh*, *churning*, *creaking*, or *crumpling* sound heard over some part of the præcordial region, *not* conveyed to the aorta, pulmonary artery, or carotids. This is not constantly present.

In pericarditis there are the fluid products of inflammation as well as the solid: there is serum as well as lymph; and the signs of fluid effused within the pleura and pericardium are the same. The fact of its existence, and the measure of its accumulation within the pericardium, can only be known by the degree and extent to which the præcordial region, and perhaps, some space beyond it, may be *dull to percussion*. Thus, *dullness* sometimes occupies a part, sometimes the whole, of that region; sometimes it reaches beyond, as high as the *second*, and even the *first left rib;* sometimes it extends *beneath the whole length of the sternum*, except about an inch at the top, and even *beneath the cartilage of the ribs on the right side*.

This *dullness to percussion* is a most important sign, and hardly inferior to, or less diagnostic of, the pathological condition to which it points, than the *attrition*, *friction*, or *to-and-fro murmur* itself, which is caused by the rubbing of the two layers of membrane on each other, after they are covered with lymph.

But there are two other physical signs of this disease which often but not always attend,—1st, an *undulatory motion*, visible to the eye, *between the cartilages of the second and third, or the third and fourth ribs*, on the *left side*, or in both situations at the same time; 2nd, a vibratory motion, like the purring of a cat, *felt* just over the same places as the undulatory motion is seen. These two last signs sometimes attend disease of the semilunar valves of the aorta and pulmonary artery, and are therefore *not* pathognomonic.

During the life-time of Corvisart and Laennec the physical signs of pericarditis were not discovered, and it is no wonder they speak with so much doubt about it. But since Dr. Watson, of London, and Dr. Stokes, of Dublin, distinctly ascertained that *increased dullness on percussion*, and the peculiar *friction to-and-fro sound*, were pathognomonic of this lesion, no one who has once listened attentively to this sound can ever again mistake it, or misinterpret its meaning.

In all acute cases of pericarditis I believe this *friction-sound* can be heard distinctly if listened for. The harsh churning sounds spoken of before are generally the precursors of this more distinct sign, but they are not always to be heard. The *to-and-fro friction sound* is always evident, and if watched quite distinct.

Bleeding, both general and local, is undoubtedly invaluable, and ought to be carried to such an extent as to cut off the supply of a certain quantity of blood to the part, and decrease the quantity of fibrin in the blood. Purging to a certain extent is necessary, but that will not absorb either the serum or lymph. *Opium is of the greatest benefit*, by soothing the excessive irritability of the nervous and vascular excitement, and relieving pain; and counter-irritation, particularly blistering, is invaluable, by exciting the action of the absorbents near the seat of the lesion, and in that way relieving the distension of the vessels. But all these remedies combined will not prevent a case of pericarditis making progress to that stage which ends in adhesion and premature death.

[The only thing which will prevent this is mercury, which certainly has the power of doing more in pericarditis than bleeding and other antiphlogistic remedies can do. Thus in foreign practice, where no mercury is used, the majority of the patients die; and in Dr. Taylor's forty cases, all those in whom the specific effect of mercury was not produced, also died.]

It is probable, says Dr. Shearman, that the specific action of mercury *changes the condition of the blood*, and *diminishes the quantity of fibrin and white corpuscles*, as we find mercury most useful when the blood is buffed, and in serous and fibrinous inflammations, where effusions take place to a great extent.

Dr. Latham says, "my experience tells me that whenever the exocardial murmur has ceased early, *salivation* has first taken place." And in the relation of the events of the ninety cases, there were *two* in which he *could not* produce the specific action of mercury. *These two died*, and only one more. In another place, he says, "not in a single instance did the *exocardial murmur cease* to be audible, until *salivation* appeared."

Again he says, "In English practice, mercury is given from first to last, but it is for a time as if it were not given at all, for it produces no sensible effect. Common antiphlogistic remedies, however, are able, again and again to mitigate and subdue symptoms; and so, at the end of a week or ten days, the patients are *still alive*, yet they are *ready to die*; but in a great majority of cases they do not die. *Salivation arrives late, and seems to save them.*" ! !

Colchicum, tartarized antimony, and aconite, ought to be mentioned as remedies, which occasionally, very much allay the excessive action of the nervous and vascular system. They require caution and judgment in administration, perhaps more so than those before mentioned.

In my own practice I have been in the habit of treating these cases by general bleeding to a certain extent, followed by cupping, leeches, and blisters; but I have placed my chief dependance upon well regulated doses of calomel and opium, and frequent frictions with strong mercurial ointment, until ptyalism is produced.

It would have been easy for me to give numerous other quotations to prove the necessity of putting pericarditic patients under the specific influence of mercury as *quickly as possible*, but space will not allow.

Prov. Med. and Surg. Journal, June 2, 1847, *p.* 286.

38.—*On the Mercurial Treatment of Pericarditis.*—[From the cases of pericarditis so admirably reported in the Lancet by Dr. TAYLOR, some months ago, a writer in the British and Foreign Review draws the following inferences respecting the utility or non-utility of mercury in the treatment of that disease.]

1. Ptyalism was not followed by any abatement of the pericarditis in *twelve* cases(i, ii, iii, v, vi, xi, xiii, xiv, xv, xvii, xxii, xxiii.)
2. In *one* case pytalism was followed by speedy relief (vii.)
3. In *two* cases (ix, xxvii) ptyalism was followed by a diminution, and then gradual cessation of pericardial murmur.
4. In *one* case pericardial murmur had been diminishing for some days before, and it ceased soon after ptyalism was produced (xvi.)
5. In *one* case pericarditis and pneumonia both increased in extent and intensity after ptyalism (xxi.)
6. In *four* cases pneumonia supervened after the establishment of, and therefore was not prevented by, ptyalism (iv, v, xii, xv.) Was it CAUSED by it?]
7. In *three* cases endocarditis supervened after ptyalism (v, x, xiv.)
8. In *six* cases ptyalism was followed by pericarditis (xi, here the mouth was very sore at the time, and the pericarditis continued sixteen days; xii, xxi, xxiii, here the two things were nearly of simultaneous origin; xxiv, xxvii.)
9. In *one* case ptyalism could not be produced, and yet the pericarditis went on favourably (xx, mercury was given for nineteen days.)
10. In *two* cases ptyalism was followed by extensive pleuritis (xxiii, xxiv.)
11. In *one* case ptyalism was followed by erysipelas and inflammation of the larynx (xxvii.)
12. In *two* cases rheumatism continued long after ptyalism was produced (xvi, xvii.)

The importance of these propositions need not be insisted on—they very clearly show that current opinions on the powers of mercury require revision. The question of the issue of pericarditis treated with mercury, and of pericarditis not treated with mercury, cannot be solved by these cases for several obvious reasons; but these cases may be used as elements for its decision by future enquirers – Dr. Taylor's subscription in the cause. The same may be said of their applicability in reference to the question of the comparative influence of mercury in rheumatic and non-rheumatic cases of the disease.

[The following observations are made on the connexion of pericarditis with acute rheumatism.]

The frequency of acute rheumatism as an observed cause of pericarditis was, as already stated, 75 per cent. The complementary inquiry into the frequency of the cardiac inflammation in the course of acute rheumatism remains to be made. Now it appears that among 75 cases of acute rheumatism, treated by the author in University College Hospital, there were 37 (or about one-half) in which there was disease of the heart of some kind or degree; in the others there was probably none. Among these 75 cases of rheumatism there occurred 6 instances of acute pericarditis of considerable severity, besides two of very slight character. The proportion of the former therefore was, 1 in 12½ cases. In the same 75 cases of rheumatism there were 32 cases of valvular disease of the heart, either old or recent, besides 2 known to be recent. There was therefore 1 case of valvular disease in about every 2 cases of rheumatism.

Comparing these results with the statements of various writers upon the same subject, Dr. Taylor draws the two following conclusions:—1st. That acute inflammation of the heart has occurred less frequently as a complication of acute rheumatism in his experience, than it has been *believed* to occur in the experience of those writers whose opinions seem to have been most generally adopted by the profession. 2nd. That the frequency of cardiac inflammation, even in his cases, has been such as abundantly to show the great influence of acute rheumatism in its production.

British and Foreign Medical Review, Oct. 1847, *p.* 565.

39.—*On Fatty and Granular Degeneration of the Heart*—By James Paget, Esq., Professor of Anatomy and Surgery to the College of Surgeons.

The most common form of the disease is that in which you find, on opening the heart, that its tissue is in some degree paler and softer than in the natural state, and lacks that robust firmness which belong to the vigorous heart. But what is most characteristic is, that you may see, especially just under the endocardium, spots, small blotches, or lines, like undulating transverse bands, of pale, tawny, buff, or ochre-yellow hue: thick set, so as to give at a distant view a mottled appearance. These manifestly depend, not on any deposit among the fasciculi, but on some change of their tissue. For, at their borders, you find these spots are gradually shaded off, and merging into the healthy colour of the heart; and when you examine portions of such spots with the microscope, you never fail to find the fatty degeneration of the fibre. In the least degree of the degeneration, you may see only minute black dots, within the sarcolemma, partially obscuring the proper substance of the fibre: but as these dots grow larger, so their centres grow bright, and they manifest themselves as particles of oil, which, still increasing, both in size and number, may, at length, almost completely fill the sarcolemma, or even may, in some degree, distend it. They may be irregularly scattered, or may lie in longitudinal transverse rows; and various appearances, such as it would be tedious to describe, may be produced by the various sizes of the oil particles, and by their lying in different focal distances, so that some may appear like black dots, and others may present the many aspects which, according to their distance, we find in any specimen of minute drops of oil. The main fact is, that in portions—even taking them altogether, considerable portions—of the heart, the proper muscular tissue is gone, and in its place you have tubes full of fatty matter—therefore powerless, exercising the proper function of the muscular fibre.

In regard to the pathology of the disease, it is important to remember that it is, from the first, an affection of the fibres themselves; it is not the result of an encroachment of the natural fat of the heart upon them, although it sometimes, yet I think seldom, exists together with increase of the external fat of the heart. Its chief seat—near the inner walls of the heart's cavities, and on the fleshy columns, where is little or no fat in the natural state—would prove this; and the microscopic examination leaves no doubt, for you may not find more than the usual quantity of fat outside the fibres. The fat is nearly all within them, and the paleness, or complete absence of the nucleus, declares the nature of the case. Neither is it at all necessarily connected with general fatness of the body.

The yellow spotting, or transverse marking of the heart, may exist in the walls of all its cavities at once, or may be found in a much greater degree in one than in the others. My impression is, that it is less common in the auricles than in the ventricles, and that when it exists simultaneously in all, it is less advanced in the auricles. I think, also, that it is more common in the left ventricle than in the right; and in the left ventricle it is commonly most advanced on the smooth upper part of the septum, and in the two large prominent fleshy columns. Indeed, it may exist in these columns alone; and when, in such a case, the rest of the heart remains strong, may account for the occasional occurrence of rupture of the columns; or, as Rokitansky suggests, by their imperfectly holding the valves, may give rise to murmurs.

The affection I have just described is one of the vast number of discoveries in pathology which we owe to the extraordinary labours of Professor Rokitansky, of Vienna; and he has very accurately described it in one of its most interesting aspects, as occurring late in the course, or very near the close, of cases of hypertrophy of the heart. It is common to find enlarged hearts thus diseased; and thus, no doubt, it often is that death comes in. For, for a long time the heart will contend against the increased obstacles to the movement of the blood; and its reserve-power of nutrition will be exercised with continually refreshened force, strengthening it in every part, or especially in that on which the chief stress of difficulty falls: and thus the circulation may for a long time be maintained tolerably. But good general health, and the concurrence of all the conditions of healthy nutrition, are necessary for this growth; and, when they fail, as sooner or later they do through the complication of the disease which may first have affected only the organs of circulation, their growth is no longer possible,—atrophy ensues, and death, through the effects of the obstruction of the circulation, which had been long striven against.

The atrophy thus ensuing may produce mere wasting of the muscular substance of the heart; and hence, perhaps, as already said, the supervention of disproportionate dilatation after healthy hypertrophy of the heart. But I think it more often assumes this state of degeneration; and it does so, not in the heart alone, but in other hypertrophied organs, as in the urinary bladder.

Medical Gazette, Aug. 6, 1847, *p.* 230.

[Mr. Paget next describes an important affection of the heart, which he terms "granular degeneration;" and to which he and Dr. Ormerod have devoted a good deal of attention. He says,]

In hearts thus diseased there is no increase in the quantity of fat on the exterior.

There is no increase in the quantity of fat on the exterior of the heart, and the whole organ has its natural size, shape, and general external appearance; but it feels soft, doughy, inelastic, unresisting, and may be moulded and doubled-up like a heart beginning to decompose long after death: it seems never to have been in the state of *rigor mortis.* These appearances are more manifest when a section is made through the wall of the left ventricle. Then, if the wall be only partly cut through, the rest of it may be very easily torn, as if with separation of fibres that only stick together; and the cut surface of the wall looks, as it were, lobulated and granular, almost like a piece of soft conglomerate gland—an appearance which is yet more striking when observed with a simple lens of about half an inch focus. In colour, it has not on its surface, much less on its section, the full ruddy brown of healthy heart, a colour approaching that of the strong voluntary muscle,—but is, for the most part, of a duller, dirtier, lighter brown, in some parts gradually blending with irregular marks or blotches of a paler fawn colour.

When a portion of the muscular wall (let it be cut however it may) is dissected in the ordinary way, or even very gently, with needles, for the microscope, it is found that all the fibres are broken into short pieces, some twice, some five or six times, as long as they are broad. The broken ends of these short pieces are usually squared, but some are round, or irregular, or cloven, and broken off lower down. The pieces are almost always completely separated, having no appearance of even cohering at their sides, and they lie scattered disorderly.

In some pieces, the transverse striæ are still well seen and undisturbed, appearing quite as in health. In more, they are interrupted or obscured by dark particles, or glistening particles with shady black margins, like minute oil-particles scattered without order in the fibre. Where such particles are few, they appear to lie especially, or only, in contact with the interior of the sarcolemma; but, where more numerous, they appear to occupy every part of the fibre, leaving the transverse striæ discernible only at its margins, or even completely obscuring or replacing them, and making the fibre look like a gland-tube filled with dark granules and larger glistening dark-edged fat particles. Where these particles are very numerous in a fibre, they appear also generally larger, and more generally glistening and black-edged, like larger oil particles.

There are no oil-drops floating about, no fat-cells, scarcely even any of the minute particles which are seen in the fibres, appear out of them,—the field of the microscope is perfectly clean. No morbid product, cytoblasts, or others, can be seen as a deposit between the fibres, nor is there any apparent increase of cellular tissue.

As a general rule, the palest parts are most advanced in the disease; but even in microscopic portions some pieces of fibres appear hardly changed, while those all round them are completely granular.

Besides the characters assigned above, these diseased fibres differ from healthy ones, in that there are no nuclei lying among them as among healthy heart fibres, and that they rarely split in filaments, though often obscurely marked longitudinally.

Such is the fatty degeneration of the heart not otherwise diseased—an affection which seems of importance to us all, because it may fatally interfere with the ordinary progress of a case, whether surgical or medical.

Let me add, for caution, that serious as the effects of the disease are, the change of structure may escape any but a very careful and practised examiner. For often the change is hardly manifest to the eye, though, while it affects the whole heart, it may have destroyed life; it perhaps never proceeds to the yellowness seen in the spots of fatty degeneration which constitutes the first form I described; yet, extreme as the degeneration in these spots may be, it is comparatively unimportant, because existing in only portions of the heart's substance, whereas, generally, this latter form affects the whole heart at once, and almost uniformly.

I do not pretend to trace the clinical history of these affections: I hope it will be done by Dr. Ormerod, who has helped me greatly in investigating their morbid anatomy; I may, however, remind you of the principal character which all these cases seem to present; it is, that they who labour under this disease are fit enough for all the ordinary events of calm and quiet life, but are wholly unable to resist the storm of a sickness, an accident, or an operation. And let it not be said that one learns little in learning too late the existence of an incurable disease; for, beyond doubt, very often the death that has come from such a disease as this has been ascribed to a wrong cause, and has spoiled confidence in good men and their good measures.

Medical Gazette, August 6, 1847, *p.* 230.

ORGANS OF RESPIRATION.

40.—ON FOLLICULAR DISEASE OF THE THROAT AND LARYNX.

By Dr. Horace Green, New York.

[The October number of the British and Foreign Review, the *last* number of that most valuable work, contains an interesting review of a work by Dr. Horace Green, of New York, on diseases of the throat and larynx. Dr. Green advocates the use of nitrate of silver as a local application in chronic laryngitis, 'clergyman's sore throat,' and similar affections, some of which not unfrequently simulate, or complicate phthisis. The mucous membrane lining, thr fauces, pharynx, and larynx, is abundantly studded with muciparous follicles. At the back of the tongue they open into the foramen cœcum and the lenticular papillæ; in the uvula and pharynx they are large; and the tonsils seem to be entirely composed of them; in the æsophagus they are like Brunner's glands, and are imbedded in the submucous tissue. In the upper part of the larynx these follicles are numerous, and still more so in the trachea: they secrete a fluid to lubricate the passages, which in the healthy state is bland, transparent, and not abundant in quantity, but is increased and vitiated by disease. Diseases of the throat are commonly arranged with those of the æsophagus: Dr. Green has a sensible remark upon the incorrectness of this arrangement: he says,]

Pathologically considered, the relation which exists between the fauces, tonsils and pharynx, on the one hand, and the respiratory tubes on the other, is much more intimate and important than the connection which exists between the throat and the æsophagus. In almost all the inflammatory affections of the air-passages, whether primary or consecutive, the diseased action has its origin in the fauces and pharynx, and extends by continuity from thence to the respiratory tubes; whilst the membrane lining the æsophagus may escape inflammatory action altogether, or become but partially implicated.

[It appears that it was in 1831, that a disease of the throat appeared among the clergymen in various parts of New England, characterised by peculiar and severe symptoms. This was the follicular disease of which Dr. Green writes: he says,] For some time after the appearance of the disease in this aggravated form it seemed to be confined in its attacks to public speakers, and of these the clergy were the most frequent sufferers. Hence the affection was early called the 'clergyman's sore throat.' It was soon found, however, that individuals of every profession, of all occupations, and of different ages and sexes, were liable to the disease. Of nearly four hundred cases that have fallen under my observation, only about seventy-eight, or one in five of this number, were in any way public speakers. When, however, the affection does occur in those persons who are in the habit of exercising the vocal organs by public speaking, singing, teaching, &c., it is always, for obvious reasons, attended with symptoms of a more aggravated nature, than when it appears under ordinary circumstances.

So insidious frequently is the onset of the disease, and so gradual its progress, that in some instances it will be found to have continued many months and to have made considerable advance before the presence of any prominent local symptom shall have called the attention of the individual to the existence of the affection. He then perhaps becomes aware of an uneasy sensation in the upper part of the throat, accompanied by a frequent inclination to swallow, as if some obstacle in the passage might be removed by the act of deglutition; or, more frequently there is an attempt made, and often repeated, to clear the throat by a kind of screatus or hawking, and to relieve it of a sensation of 'something sticking at the top of the windpipe.' About the same time there is observed an alteration in the quality or *timbre* of the voice; there is experienced in the vocal organs a loss of power, and a hoarseness is present which at first is hardly perceived in the morning or after a full meal, but which is increased towards evening, and after speaking or reading longer or louder than usual. The mucous secretion, which, in a healthy condition of the glands is bland and transparent, becomes viscid, opaque, and adherent, and is increased in quantity. Frequently there is a slight soreness felt about the region of the larynx, but seldom is any cough present at this stage of the disease. In this condition the symptoms may remain for a long period, sometimes for years; nearly disappearing at times, and then again being greatly aggravated by vicissitudes of temperature, increased exercise of the vocal organs, and by various other morbific causes. If we inspect the throat and fauces during the progress of the above symptoms, we shall find the epithelium, which in the healthy state of the mucous tissue covers its surface, more or less destroyed; its absence being manifested by the slightly raw or granulated appearance which the membrane presents; the mucous follicles will be found hypertrophied, and will appear distinctly visible, especially those studding the upper and posterior part of the pharyngeal membrane. If the disease has been long-continued, a portion of the follicles may be found indurated, or, in some instances, filled with a yellowish substance, having a resemblance to and presenting the physical characters of tuberculous matter; whilst striæ of opaque, adhesive mucus, or of a muco-purulent secretion, may be seen hanging from the veil of the palate, or coating the posterior wall of the pharynx. As the disease advances, and the follicles, situated at the root of the epiglottis and in front of the arytenoid cartilage, and the still more numerous glandulæ of the laryngeal mucous membrane, become involved in the morbid action, all the above symptoms appear greatly aggravated; the hoarseness is much increased, and is constant; speaking or reading aloud is attended with great difficulty; and when continued for any period is followed by pain and increased soreness in the region of the larynx, and by a sensation of extreme languor, not only about the vocal organs, but throughout the whole system. In some cases, where the disease affects the glands situated in the ventricles of the larynx and near the vocal chords, the voice becomes completely extinguished; or, if by great effort, the patient essays to speak aloud, the vocal resonance is uneven, harsh, and discordant. In such cases, notwithstanding the situation and extent of the disease, there is seldom present any decided or trouble cough; and, in this respect, follicular disease differs essentially from all other equally grave, laryngeal affections. Cases have fallen under my observation repeatedly, where the affection had advanced until the symptoms present indicated extensive disease of the follicles of the larynx and of the membrane covering the vocal ligaments; until the ulceration of these glands, situated at the root of the epiglottis, could be felt upon the laryngeal surface, and yet the patient would remain free or nearly free from a cough, notwithstanding an abundant acrid secretion, poured out by the diseased follicles, would occasion an incessant hawking to clear the upper part of the windpipe and the pharynx of this tenacious mucus.

It is of importance to remember, however, that the disease will commence and become inveterate without any symptom whatever being referred to the throat. The patient is teased by a constant irritating cough, his breathing is difficult, he snores loudly in consequence of the thickened membrane, and awakes suddenly from the short slumbers which constitute the sole repose he gets, and coughs up a viscid mucus; yet he will express himself as having never experienced any pain or uneasiness in the throat or larynx, and is surprised that such particular reference should be made to the condition of the throat, inasmuch as the seat of irritation, as felt by himself, is at the root of the neck, about the point corresponding to the bifurcation of the bronchi. The symptoms vary in fact so much in different individuals, that it is evident a much more minute and accurate investigation is requisite, with a view to a proper classification of the different forms under which this follicular disease appears.

[An excellent illustration of the disease is the case of a clergyman who, after being for some time troubled with irritation about the fauces, and with hoarseness, altogether lost his voice. For four years he was quite incapacitated for public speaking; many remedial measures were tried, and at last he took a voyage to Europe.]

After an absence of many months he returned to his home, invigorated by this long relaxation from his duties, and although there still remained some sensibility of the larynx, and a slight huskiness of the voice, yet he felt that with due caution he might with safety gradually resume his public duties. A single attempt, however, to speak in public soon after his return, entirely dissipated this hope. His voice again gave way ; hoarseness, with every other morbid symptom, which previously attended his disease, returned in a still more aggravated form than at first. In this condition his case remained—marked by an occasional remission of the symptoms, but attended by no permanent improvement—until the period above mentioned, when, as I have stated, he came under my care. His condition at this time was as follows: his general health, although impaired by the long-continued local disease, was still very good; yet his countenance exhibited a sallow hue, and was marked by that care-worn and anxious expression which I have often observed in those cases of tuberculous sore throat which have been protracted through a long period of time. Constant hoarseness was present, and his voice when uttered aloud was rough and hollow. Speaking was accomplished with difficulty, and if continued, as in ordinary conversation, for a short time only, was followed by soreness and increased hoarseness, and, sometimes, for a short period, by complete aphonia. His throat, on being inspected, presented an enlarged and cavernous appearance; as if the pillars of the fauces and the pharyngeal muscles had become atrophied, or had been wasted away by disease in a manner greatly to enlarge the posterior fauces. The mucous membrane lining these parts was covered by diseased follicles, some of them greatly enlarged and indurated, others slightly hypertrophied, and filled with a semi-fluid substance resembling tuberculous matter. On pressing down the tongue, the epiglottis could be seen standing above its base, erect and œdematous; its edges red and slightly ulcerated; whilst a vitiated mucous secretion was being constantly poured out from the diseased glands, occasioning an incessant hawking to relieve the throat of this cause of irritation. Pressure upon the thyroid cartilage increased the pain and soreness, which were constantly felt in the larynx. This last symptom, together with the permanent hoarseness and the partial extinction of voice, was plainly indicative of the mucous follicles of the ventricles of the larynx and of those around the chordæ vocales being involved in the disease. Yet there was no cough present, nor could a rigid examination of the chest detect any morbid alterations in the pulmonary organs. All mental excitement affected him injuriously; it had a tendency invariably to aggravate the local difficulty, although no effort whatever might be made to exercise the vocal organs. The tongue was coated, his pulse seventy-six in the minute, and quite feeble.

[There is given also the case of a barrister, who was much engaged in speaking. His disease commenced with slight huskiness and uneasy feeling in the throat after public speaking, which subsided after rest. At this time the follicles in the pharynx and isthmus of the fauces were slightly hypertrophied, and their secretion increased. After the disease had existed some months, when the hoarseness was persistent, and the voice rough and uneven, it was found that the uvula was much elongated, and the posterior fauces and pharyngeal membrane were studded with elevated tubercles, having inflamed bases, and much resembling varioloid disease. But still further :]

In some examples, the disease goes on until the symptoms attain so great a degree of intensity as to simulate tubercular disease of the lungs. Of this by no means uncommon circumstance, the subjoined case is an instructive example; it is that of a merchant, aged 37:—

Coming on in the insidious manner that has been described, the disease had made considerable progress before his case was deemed of sufficient importance to require medical treatment. At length he placed himself in the hands of some homœopathic physicians of this city, under whose treatment he remained for two or three years. In the meantime the disease, of course, continued to advance, until extensive ulceration of the pharyngo-laryngeal follicles had taken place. Still placing his confidence in this "fabric of a vision"—Homœopathy, he visited Paris, and put himself under the care of the celebrated Hahnemann, who treated his case for three or four months; but with as little success as had attended the prescriptions of his satellites in New York. Discouraged at last, or losing confidence in the plan of treatment proposed by Hahnemann, he came back to New York, and soon after his return placed himself under my care. His general health at this time had become much impaired, doubtless through the long continued influence of the local disease. The whole throat, which presented an atrophied and cavernous appearance, was studded with diseased follicles, some of which were greatly enlarged and vascular, or were filled with tuberculous matter; whilst others were broken down and destroyed by ulcerations. The uvula was elongated, and the epiglottis, which could be seen above the back of the tongue, was erect and œdematous, and its circumference was serrated with ulcerations. On examining the epiglottis with the finger, an extensive and deep ulcer could be felt at its base, on the laryngeal surface of this cartilage; whilst the pain in the larynx, the soreness experienced on pressure over the thyroid cartilage, together with the constant hoarseness and irritation in the laryngeal cavity, showed conclusively that the ulcerations had extended to the vocal ligaments. The patient complained of a dull pain, and a sensation of great weakness under the sternum; there were present also a cough, emaciation, erratic pains in the chest, and other constitutional symptoms that indicated the presence of tubercles in the lungs; but, notwithstanding many of the rational symptoms of phthisis were present, a careful examination of the chest was made, without detecting any structural lesions in the pulmonary organs. Bronchial irritation, however, existed to a considerable extent.

We observe here that the plan of treatment adopted by Dr

Green was so eminently successful in this case, that his patient was ultimately restored to robust health. We could add also, if our space would permit, another case presenting all the rational signs of ulceration of the larynx, with the voice reduced to a rough whisper, in which the repeated application of a strong solution of crystallized nitrate of silver (forty grains to an ounce of distilled water) to the cavity of the larynx, combined with other treatment, was perfectly successful in restoring the patient to health and the full performance of his duties as a clergyman. Another example of a merchant is given, in whom the voice had been no louder than a whisper for fourteen months, and who was treated by the nitrate with the same success; but we are anticipating our subject.

In the examples of follicular disease above detailed, no difficulty of deglutition was experienced; in some, however, this is a prominent and urgent symptom.

[In some cases, the tonsils are the principal seat of the disease, and may be so much hypertrophied as to require removal. The same measure may be required for the uvula, when in a similar state. Follicular disease not unfrequently accompanies phthisis; and the symptoms aggravated by this complication may be much relieved by the treatment of the pharyngo-laryngeal mischief. In some families there is an hereditary predisposition to follicular disease; and among other predisposing causes may be mentioned the strumous diathesis, frequent exposure to impure air, as that of ill-ventilated churches, courts, and lecture-rooms, bodily fatigue, and mental anxiety. The exciting causes are an attack of influenza, or eruptive fever, or more particularly the habitual use of tobacco, the constant stimulant effect of which upon the mucous follicles of the throat, has a direct tendency to produce the disease when any predisposition exists. The reviewer tells us that—]

The regular use of the voice is not to be considered as an exciting cause, as Dr. Green found few barristers or auctioneers to be affected, but he thinks that an irregular or sudden and violent use of the vocal organs will bring it on, especially when a predisposition exists. Thus clergymen suffer rather than barristers, because their duties lead them to prolonged public speaking on one day of the week only, while during the remaining six the vocal organs are nearly quiescent.

Treatment of follicular disease.—This is divided into two parts topical and general.

With regard to the topical treatment of pulmonary, pharyngeal, or tonsillar disease little need be said; inhalation, insufflation, lotions, and the application of the solid nitrate of silver to the tonsils, uvula, and pharynx, are the well-known means adopted for this end. The application of nitrate of silver to the cavity of the larynx is not, however, to be classed amongst these ordinary methods; and the practice of it by Dr. Green seems to have been received with such incredulity in the United States, that Dr. Green has thought it necessary to multiply evidence as to the fact that he has introduced a strong solution of nitrate of silver within that cavity. Trousseau and Belloc are supposed, by Dr. Green, to have been the first to prescribe and employ topical medication in chronic laryngeal disease. They found a solution of the nitrate of silver, in the proportion of two drachms, or sometimes, four drachms, to an ounce of distilled water, to be the most efficacious and harmless operation. Two methods were adopted by them: the one was to saturate a small sponge attached to a bent rod of whalebone, and to manipulate so that the solution be expressed into the larynx; the other was to use a small silver syringe, with a tube suitably adapted for effecting the same object. Dr. Green, however, several years before the appearance of Messrs. Trousseau and Belloc's book, had instituted experiments, and came to a similar conclusion.

[But Sir Charles Bell has the priority over all these gentlemen: so long ago as 1816 he published the account of a case in which he had applied solution of caustic to the glottis. And Dr. Watson relates another case, that of a man with acute laryngeal disease, for which Sir Charles had performed laryngotomy, and in whom extreme dyspnœa supervened upon the closing of the wound. It was agreed to "*swab*" the glottis, and upper part of the air-passages with caustic solution, and this was accordingly done, and with great advantage. Of this said "swabbing," Dr. Watson says—]

It is said that a little practice will enable a person to pass his finger into a patient's throat, and to familiarize his sense of touch with the ordinary condition of the upper part of the respiratory apparatus, so as to be able to detect swelling, or irregularity, or thickening about the chink of the glottis. And great advantage is said to have been obtained from applying remedies directly to the diseased or irritable part. This practice was much followed by the late Mr Vance, who had been for many years a naval surgeon, and he called it, in naval phrase, *swabbing* the affected organ. A piece of sponge, secured with a string, or fastened to the end of the finger of a glove, is dipped in a strong solution of nitrate of silver, and then carried down into the throat, as far as the spasmodic state of the muscles which the attempt induces will permit, and pressed downwards against the superior surface of larynx. I believe other stimulating applications are sometimes employed in the place of nitrate of silver. Now, of this method of cure I do not know much, except by report. I have heard that many cases of chronic hoarseness and cough have speedily been cured by it. (*Lectures* p. 810.)

[The reviewer proceeds:—]

These cases are not quoted to disparage Dr. Green's researches, but rather as confirmatory of them. The whole subject is undoubtedly his own, by the special attention he has devoted to it. We will now subjoin his method of applying the nitrate. The salt he uses is *not the fused, but the crystallized.*

Method of applying the solution.—In the treatment of laryngeal disease by the direct application of the nitrate of silver to the diseased surface, I have employed ordinarily a solution of this substance, of the strength of from two to four scruples of the nitrate to an ounce of distilled water. When, however, there are found extensive ulcerations of the epiglottis, or about the opening of the larynx—ulcerations which it is desirable to arrest at once—I have not hesitated to apply directly to the diseased parts, a solution double the strength of the last named. But one or two applications only of a medicine of this power should be made at one time; ordinarily, however extensive the lesions may be, it will not be necessary to employ a solution of greater strength than one composed of four scruples of the salt to an ounce of water. On the other hand it has been found, that one of less strength than of from forty to fifty grains of the nitrate to an ounce of fluid will have but little effect upon a diseased mucous surface, where ulcerations exist.

In cases in which it becomes necessary to cauterize the interior of the laryngeal cavity, the aperture of the glottis should not be passed at once; the part should be *educated*, by applying the solution daily, for several days, to the faucial and pharyngeal region, to the epiglottis, and about the opening of the glottis. Proceeding in this manner, the exquisite sensibility which belongs to the lips of the glottis, is in a good degree overcome, and the instrument may then be passed into the larynx, without producing half the amount of that irritation which its introduction below the epiglottis would have awakened at first.

The instrument which I have always employed for making direct medicinal applications into the cavity of the larynx is one composed of whalebone about ten inches in length, curved at one end, to which is securely attached a small round piece of fine sponge.

The extent to which the rod is to be bent must be varied according to circumstances, for the opening of the glottis is situated much deeper in some throats than in others; but the curve which I have found suited to the greatest number of cases, is one which will form the arc of one quarter of a circle whose diameter is four inches.

The instrument being prepared, and the patient's mouth opened wide and his tongue depressed, the sponge is dipped into the solution to be applied, and, being carried over the top of the epiglottis, and on the laryngeal face of this cartilage, is suddenly pressed downwards and forwards, through the aperture of the glottis, into the laryngeal cavity. This operation is followed by a momentary spasm of the glottis, by which the fluid is discharged from the sponge and is brought into immediate contact with the diseased surface.

Every physician who has been present when this operation has been performed, (and a large number have witnessed it from time to time) has manifested much surprise on observing how little irritation has been produced by the introduction of the sponge. If the patient, on opening his mouth, take a full inspiration, and then be directed to breathe gently out, at the moment in which the sponge is introduced, the irritation caused by the application will be much less than when this caution is not observed. The fact, indeed, has been fully established by repeated experiments, that the introduction into the larynx of a sponge, saturated with a solution of the crystals of nitrate of silver, of the strength of forty, fifty, or even sixty grains of the salt to the ounce of water, does not produce, ordinarily, as much disturbance as is caused by the accidental imbibition into this cavity of a few drops of tea, or even of pure water!

In the topical treatment of the follicular disease, it will be found that all larynges cannot be entered with the same facility. Indeed, in some instances, where œdema of the epiglottis and of the arytenoid cartilages has existed, I have found it very difficult in making the first attempt to pass the sponge of the probang through the aperture of the glottis.

Nothing will so speedily enlarge the opening of the glottis, when it has been contracted by œdema, as a few applications of the nitrate to the lips of the glottis and the laryngeal face of the epiglottis.

The use of the solution should be continued for some time: this is practically of great importance, as a relapse will otherwise soon take place. It should be applied at first every other day (and even oftener) for two or three weeks, and then twice a week until the surface assumes a healthy appearance. If the tubercles on the pharynx appear angry or confluent, the solid nitrate may be applied.

Dr. Green justly observes that the muciparous glands of the posterior nares are not unfrequently involved, and an unhealthy mucus is almost incessantly dropping down into the throat. The argentine solution may be applied by a small rod of whalebone, bent at the end into a right angle instead of into a curve.

There is one particular which Dr. Green has omitted to state in the above quotation, and that is, that a spatula must be made expressly for the purpose: a spoon or an ordinary spatula will not serve. It should have a broad blade, eight inches long and one and a quarter broad, four and a half inches should be curved at a right angle to the remaining portion, which is to be fixed into a handle five inches in length. The blade should be electrotyped with silver, as when made of naked steel its formidable appearance at first sight alarms the patient. Fixed in a handle perpendicular to the curve, the latter depresses the tongue while the hand of the operator is situate below the chin of the patient, and leaves ample room for the application of the solution. The point of the spatula should be carried well backward, so as to touch the root of the tongue, and thus enable the operator not only to depress the tongue, but also to drag it forward. It is by this means that the epiglottis can be brought into view in a very large majority of cases.

Concurrently with this topical application, other local means are necessary. Thus, when the uvula is elongated, partial or total excision is necessary. For this purpose Dr. Green uses curved scissors and a pair of long and slender forceps having finely serrated blades. In hypertrophy of the tonsils, Dr. Green urges that excision is the only effectual means, if fibrinous deposit have already taken place. Even homœopathy, Dr. Green observes, seems powerless in these cases. The operation itself is almost painless.

Hypertrophy and induration of tke tonsils occur frequently in young persons and children, independent of follicular disease of the throat. In some instances, the affection appears to be congenital, or is hereditary; in others, it is the result of repeated attacks of chronic inflammation of the tonsillary glands. When the hypertrophy is accompanied by induration, whether this condition coexists with follicular disease, or is the effect of chronis tonsilitis, excision of the enlarged gland is almost the only method of treatment by which permanent and effectual relief can be obtained. This fact ought to be better understood by the profession than it seems to be, for tne practice of painting these morbid growths with the tincture of iodine, or of cauterizing them with the solid nitrate, is still continued, and patients are daily being subjected to this annoying and useless practice, often month after month, with the apparent expectation on the part of their attendants that enlarged and indurated tonsils may be discussed by these applications!

Dr. Green does not confine the use of the nitrate of silver to the treatment of chronic cases: he applied it to the fauces, pharynx, and larynx, of the strength of 45 grains to the ounce, in a case of acute laryngitis, in which suffocation was imminent. For a few minutes, the difficulty of breathing and the cough were increased by the application; a large amount of viscid ropy mucus was discharged; and along with it a small quantity of blood. In the course of half an hour after the application, the symptoms had improved. The laryngeal cough subsided, the respiration became less laborious, and the patient soon after obtained some sleep. In short, from this hour Dr. Green had no farther trouble from the case. Occasional doses of expectorant medicines were administered during the day. On the following evening, a slight increase of the cough and irritation came on, but these soon subsided, and were followed by a quiet night's rest.

In a case of ulceration of the epiglottis and opening of the larynx in a child, consequent on swallowing sulphuric acid, the remedy was used with the greatest success.

The application of the solution to the bronchi is also advocated and practised by Dr. Green.

As stated in a foregoing chapter, follicular laryngeal disease is often found coexisting with chronic inflammation of the lining bronchial membrane. The presence of this complication does not contraindicate the topical employment of the nitrate of silver. On the other hand, in making the applications into the laryngeal cavity, a still more free use of the solution should be employed, in order that some part of the fluid may find its way into the bronchial divisions. Among the patients who have come under my care during the last eighteen months, are a number of intelligent physicians, who have been sufferers from laryngeal and bronchial disease. Several of them have informed me repeatedly that, after having a free application of the solution into the larynx, they have felt distinctly the fluid extending down the bronchial tubes. Often in these cases, no taste of the medicine would be observed until matter, by coughing, was expectorated from the air-passages, when the peculiar flavour of the nitrate of silver—a most acrid bitter—would be perceived; and this would continue to be observed whenever the individual expectorated, for many hours after the operation.

We have already referred to the utility and safety of the argentine solution, as a topical application in those cases in which laryngeal disease complicates phthisis pulmonalis. From the experience of twenty-five such cases treated by Dr. Green during the year 1845, he is enabled to speak in strong terms of its value in mitigating the sufferings and prolonging the lives of phthisical patients.

General treatment of Follicular disease—On looking over the details of the cases treated by Dr. Green, we find that the iodide of potassium holds the first rank. This is conjoined with the sesquioxide of iron, and various sedatives and expectorants, to alleviate the cough. belladonna, conium, hyoscyamus, and the salts of morphia are among the former class; of the latter are the sanguinaria canadensis, or blood root, hydrochlorate of ammonia, and the oil of Gualtherica. The sanguinaria is described by Dr. Green as a stimulating expectorant and slightly narcotic; and when combined with opiates, a valuable remedy in allaying the cough and irritation, in some forms of follicular inflammation, complicated with bronchial or pulmonic disease. The tincture is made by macerating four ounces of the root in two pints of alcohol. From fifteen to twenty minims may be given thrice a day, with five or seven minims of laudanum, and a sixth of a minim of ol. gualthericæ.

British and Foreign Medical Review, October 1847, *p.* 482.

41.—*Use of Solution of Nitrate of Silver, in Croup.*—Dr. W. N. Blakeman has recorded two cases. The first case is that of a child two years old, very fat and large for his age, and of the leucophlegmatic temperament. He was seen five hours after the commencement of the attack, when the skin was hot and dry, the pulse quick, with great restlessness, laborious breathing, and the hoarse barking or crowing sound peculiar to croup. A medicine composed of squill and ipecacuan was first given, by which vomiting was produced, with no relief; then six grains of calomel were administered, and the former mixture repeated, with the addition of five grains of tartar emetic; free vomiting and purging were produced, but with no relief. On the second day persulphate of mercury was given in doses of a quarter of a grain every hour, by each dose of which vomiting was excited, but without relief. On the afternoon of the same day Dr. Blakeman resolved to try a strong solution of nitrate of silver. The application was made by means of a sponge, and the solution used contained a drachm of the nitrate to an ounce of water. The application brought away a quantity of tenacious membranous matter, and a larger quantity by the vomiting, which soon followed. A second application was made ten minutes after, by which a still larger quantity was brought away, to the great relief of the symptoms. In five hours a third application was made with the same effect as to the discharge of membranous matter and the vomiting. The next morning the child was found entirely relieved from the disease.

In the second case, that of a boy six years old, with frequent pulse, skin hot and dry, breathing hurried and difficult, and loud crowing, the same application was made two hours after the commencement of the attack, when a discharge of tough phlegm took place and vomiting. After a second application the relief was complete.—*New York Medical and Surgical Reporter.*

Dr. LATOUR was sent for to a child four years old, ill of sore throat, accompanied with a hoarse cough, fever, anxiety, and other severe symptoms, the uvula and right tonsil being covered with very adherent false membranes. Nitrate of silver in the solid form was immediately applied to all the affected parts within reach, and a vomit was given, by which some fragments of false membrane were brought away. Next day the false membrane had not covered the left tousil, but appeared to have extended downwards, and the larynx seemed to be involved in the disease, as there was a suppressed hissing cough, and a loss of voice. Objecting as insufficient to the usual method of applying the nitrate of silver in such cases, namely, by introducing into the back part of the throat a sponge dipped in the solution of the salt, Dr. L. determined to use a stronger solution, between seven and eight grains to the ounce (fifty centigrammes to thirty grammes of water), and to adopt a method of applying it which he had already published in the "Clinique des Hôpitaux des Enfants." This consists in saturating a strong ball of lint in the solution, and conveying it to the opening of the larynx by means of a long curved pair of forceps, and then squeezing out the solution by compressing the ball between the blades. In this manner the solution was applied in the case referred to every eight hours for four days with complete success; the voice was first restored, and then the convalescence soon became complete.—*Gazette Médicale de Paris*, 21st August, 1847.

The treatment at the commencement in the first case was surely dangerously active in a child of two years old. We have no doubt of the efficacy of the nitrate, but are not satisfied that Dr. Blakeman's cases were true croup.

In the title of the last case, the solution is termed a saturated solution, which seven or eight grains to the ounce is far from being, the nitrate being soluble in its own weight of cold water.

Monthly Journal of Medical Science, Oct 1847, *p.* 284.

42.—*On Pseudo-Membranous Laryngitis, or True Croup.*—By Dr. J. F. MEIGS, Lecturer on Obstetrics and Diseases of Children, Philadelphia, U. S.—[Dr. Meigs prefaces his remarks upon croup by the history of seven cases of that disease, which occurred epidemically in Philadelphia, in the year 1845. The first case was seen by Dr. M. on the third day, the patient being a girl of three years old. The attack had commenced with cough, gradually increasing in violence and frequency, upon which supervened hoarseness of voice, and respiration stridulous before and after coughing. The symptoms were but mild when Dr. Meigs was sent for, yet as they seemed to be increasing in intensity, the child was bled from the arm to five ounces, put into a warm bath, and an emetic given. The next day, as there was no decided improvement, leeches were applied to the throat, and the case was subsequently treated by alum emetics, large doses of calomel and Dover's powder, decoction of senega, and the application of a blister over the larynx and trachea. Dr. Meigs says,]

On the sixth day a decided amelioration occurred. This improvement followed the use of an emetic of alum, which had been preceded by considerable doses of calomel. The action of the emetic brought away a large quantity of very viscid glairy phlegm, intermingled with portions of membranous looking matter, which we believed to be pseudo-membrane, enveloped in recently exuded fibrin. She expectorated for some time after this a good deal of the same kind of substance. It may be well to remark, however, that though the breathing and general condition of the patient improved at this time, the voice remained very weak and hoarse, and the cough retained its smothered sound. The case soon resumed its course, and notwithstanding resort was had to the same means, death occurred in a shape of the most distressing asphyxia.

[The second patient was a boy four years old, who had been ill two days with croupy cough and hoarseness. Dr. Meigs reports:]

At the time of my visit, on March 2nd, he had every symptom of confirmed croup. The cough was frequent, dry, noisy, and ringing; the voice whispering and hoarse, the respiration stridulous and difficult. I feared that the case would prove one of membranous croup, and determined to treat it actively. I bled him myself to six ounces, when he became faint. Ordered a teaspoonful of powdered alum in molasses, to be given every fifteen minutes, until free vomiting was induced, and directed that he should be placed in a warm bath in the course of the night.

March 3rd.—Emetic acted freely. No improvement whatever. Ordered v. s. to ℥ iv.; calomel gr. iv.

In the evening, his condition being much the same, the alum emetic was repeated.

4th.—Breathing more difficult; stridulous respiration very loud and strong; frequent smothered cough; whispering voice; pulse frequent, and remarkably large and violent; skin hot and dry. Ordered v. s. to faintness; calomel combined with opium.

In the evening he was much better. About four ounces of blood had been drawn with marked relief. The clot presented a very strongly marked buffy coat. The fever had disappeared. The respiration was still stridulous, but much less difficult. His whole condition much improved.

5th.—Continues to improve. Breathing quiet and easy. Cough still very croupy, and voice hoarse. He was put on small doses of hive syrup, frequently repeated. When I paid my last visit, on the 6th of March, he was out of danger and did not require any further attendance.

[The hive syrup mentioned above, we believe to be the mel scillæ comp. of the U. S. Pharmacopœia. Five other cases are given. Two of the seven died, and a post mortem examination of one of them revealed the existence of false membrane in the larynx; the others were also unequivocal cases of true croup, with the exception of the second, about which there might be a little doubt. Dr. Meigs makes the following remarks on the diagnosis of the affection:]

After a careful study of some of the highest authorities on these points, we are induced to believe that the descriptions given by MM. Barthez et Rilliet, in their work on diseases of children, are the most accurate. These gentlemen describe first, pseudo-membranous laryngitis, of which the cases reported in this paper are instances. They next consider spasmodic laryngitis, the same as the stridulous laryngitis of Guersent and Valleix. This disorder is very common throughout the United States, and is the one to which the term croup is familiarly applied. It is the disease which commonly attacks children previously in good health, *suddenly*, during the night; which is generally cured by an emetic; and which seldom lasts more than a few hours, or one or two days, It does not come on slowly and insidiously like pseudo-membranous laryngitis; it is not accompanied with exudation of fibrine, and lastly it is a disease of really little, though apparently of very great danger. It is not the laryngismus stridulus of the English authors, though the two are classed under the same head by Williams, in *Tweedie's Library of Practical Medicine*, and by Dr. Condie in his work on Diseases of Children.

Both MM. Rilliet et Barthez and M. Valleix, are very careful in drawing the distinction between the two diseases, the pseudo-membranous laryngitis or true croup, and spasmodic laryngitis or false croup. Indeed the difference is so marked, that we are surprised it is not made out by all recent writers. Those who fail to make the distinction, seem to think that both diseases are the same in the commencement; that they are charaterized by the same pathological features in the early stages, and that after differences depend on fortuitous circumstances of age, of epidemic influence, of treatment, &c.; whereas they are two widely different and distinct diseases, presenting a different array of symptoms, running a different course, and requiring a different treatment; one, so fatal as to have led some to deem it incurable; the other, very seldom leading to a fatal termination. In one, the chief pathological element is spasm, determined by a very moderate degree of inflammatory affection of the larynx in most cases; in the other, there is violent inflammation of the mucous membrane of the larynx, trachea, and even bronchia, with effusion of fibrine and consequent formation of false membranes.

These gentlemen next describe the simple forms of laryngitis, similar to those which occur in adults.

There remains to be considered the purely spasmodic laryngeal disease, called by the English authors laryngismus stridulus, or spasm of the glottis; and by the Germans, thymic asthma or Kopp's asthma. This is not the same, we believe, as Millar's asthma, which answers much more closely to the spasmodic croup or laryngitis.

Laryngismus stridulus is certainly entirely different from either pseudo-membranous or spasmodic laryngitis. A few words will explain this difference. Spasm of the glottis, or laryngismus stridulus, is a chronic disease, lasting usually weeks or months. It is not accompanied by fever. The voice and cry are unchanged except at the very moment of the paroxysm. It is attended with general convulsive symptoms, which, slight at the commencement of the case, become more marked and more severe as it progresses. These symptoms alone are sufficient to point out the wide difference between this disease, which is scarcely known in North America or in France, and spasmodic laryngitis, which is one of the most common of the affections of childhood, both in the United States and France.

[In the treatment of this truly alarming disease, prompt venesection to the extent of from four to six ounces is almost invariably required; and the continuance of severe symptoms may even demand the repetition of the bleeding, or the application of leeches to the throat. The employment of emetics is the next important measure. The subsidiary means are the free administration of calomel, the warm bath, and the application to the fauces of a solution of nitrate of silver (gr. x ad ℥j) twice or thrice a day. The chief novelty in Dr. Meigs' cases was the kind of emetic employed: we quote his observations at length:]

The emetic we always preferred was the alum. The employment of this remedy as an emetic in croup, was, we believe, first suggested in this city by my father, Dr. C. D. Meigs. In an article on croup published in the *Medical Examiner*, Vol. i., 1838, page 414, he says he has been accustomed "to make use of an emetic, which, so far as I can learn, is very little employed, but which, from its certainty, and the speediness of its operation, ought to be more generally admitted to the list of available medicines for this particular case at least. I have been familiar with its effects for more than twenty years, and my confidence in them increases rather than diminishes by time." He adds, "I think that I have never given more than two doses without causing very full vomiting; but I have often given large quantities of antimony, of antimonial wine, and ipecacuanha, without succeeding in exciting the efforts of the stomach."

The useful properties of this substance as an emetic, are its rapidity and certainty of action. It is best given in the state of fine powder, mixed with honey, syrup of any kind, or molasses. The dose is a teaspoonful of the powder, to be mixed with an equal or double the quantity of the vehicle, and repeated in ten, fifteen, or twenty minutes, should the first dose fail to produce free emesis.

It is seldom necessary to give a second dose. We have known it to fail only in two instances. One was that of a boy, two years of age, referred to but not reported above. The disease was so far advanced when we first saw him, that nothing had any effect upon him. In the other it had been used several times with full effect, but at last lost its effect, as had happened in regard to antimony and ipecacuanha also. It was the only remedy used for the production of vomiting in six of the seven cases reported above. In the sixth case, the ipecacuanha was employed, not because the alum was distrusted, or because it had failed, since it had been used successfully at an earlier stage, but because of the inconvenience of giving so large a bulk to the child, who was labouring under violent dyspnœa.

In addition to its advantageous properties of certainty and rapidity of action, it has another, which we cannot but deem one of great importance. This is the fact of its operating without producing exhaustion or prostration, beyond that which always follows the act of vomiting. The remedy itself has no effect, like that possessed in so high a degree by antimony, and to a less extent by ipecacuanha, of causing adynamia of the nervous system, an effect which, in some constitutions, or states of the constitution, or when it has to be exhibited frequently, is, we believe, sometimes attended with injurious or even fatal consequences. We have administered alum in the dose above mentioned, three and four times in the course of a day for several days, without observing dangerous prostration, or any other threatening symptom to follow its exhibition.

We have dwelt at some length upon the employment of alum as an emetic in croup, because we think it a remedy of very considerable importance in the disease. Those who select antimony in consequence of its powerful antiphlogistic properties, will not of course care to substitute for it a remedy which is not thought to have (so far as we know) any other influence upon the disease, than that which results from its operation as an emetic. For our own part, we prefer to use as antiphlogistics, blood-letting and calomel, and think a great desideratum gained, when we have found an emetic, which may be safely resorted to several times a-day, for several days, without exhausting or otherwise injuring the constitution by any peculiarity of its own mode of action.

There is another remedy which has been highly recommended by a practitioner of Maine, in severe cases of croup, which we desire to mention.

At a meeting of the College of Physicians of this city, held October 7th, 1845, the secretary read an extract from a letter presented by Dr. Bond, one of the fellows of the college. The letter was addressed by Dr. Hubbard, of Hallowell, Maine, to Dr. Bond. In the letter Dr. H. recommends very highly, the use of the turpeth mineral as an emetic in croup. This is the subsulphate, or yellow sulphate of mercury; the hydrarg. sulphas flavus of the United States Pharmacopœia. Dr. Hubbard recommends it on the ground of its promptness and certainty; of its never producing catharsis, and lastly, of its not being followed by prostration like that occasioned by tartar emetic. He says, "its emetic operation usually continues from an hour to an hour and a half, accompanied and followed by none of the distressing nausea, prostration, and depletion of antimony......From two to three grains may be given to a child two years old, and repeated in ten or fifteen minutes, until emesis is produced. If the first dose fails, the second usually acts as soon as it touches the stomach."

We used the turpeth mineral in one of the fatal cases not recorded above. It was in the case of the child three years of age. Towards the close of the attack, the orthopnœa was intense, and antimony and alum both failed to produce emesis. Believing the only chance of escape for the child in his then condition, to be the operation of an emetic, we recommended a trial of the yellow sulphate of mercury. Three grains were given to him, diffused in syrup. It operated powerfully within a few minutes, and when we saw him about an hour after, the distressing symptoms were very much ameliorated. The improvement did not continue, however. The child died some hours after, worn out by the violence of the attack.

American Journal of Medical Sciences, April, 1847, *p.* 277.

43.—*On the Treatment of Infantile Spasm of the Windpipe.*—By Dr. James Reid, Physician to the St. Giles' and St. George's Infirmary.

As these attacks, with very rare exceptions, occur during the period of dentition, our first care should be to examine the gums, and lance them freely, if there is the slightest appearance of fulness or tenderness. If called during the paroxysm, we should dash cold water in the face, and expose the infant to an open window, so as to excite the respiratory action, as in asphyxiated newly-born infants. Some authors have recommended the repeated daily lancing of the gums; but I think this may be in some cases carried too far, and that the intense fright of the child, on seeing the preparations for the operation, so frequently, may cause more danger of a severe paroxysm than is met by the corresponding benefit. One of the most severe attacks I ever saw, came on immediately after I had freely lanced the gums.

The chylopoietic viscera seem to me to be the organs which require the greatest care and attention in this complaint; and it is important to unload the bowels as speedily as possible, improving the secretions at the same time. A calomel purgative, followed in a few hours by a dose of castor oil, will be the best form; and a warm-water injection thrown up the rectum will relieve that bowel at once from its irritating contents. Small doses of calomel or grey powder may afterwards be given, at longer intervals; and as the secretions present a more bilious character, we shall find great benefit from antispasmodics. The following mixture is that which I usually prescribe:—Half a drachm of fœtid spirit of ammonia; five minims of dilute hydrocyanic acid; seven minims of tincture of henbane; one drachm of the spirits of aniseed; four drachms of the syrup of orange peel; and one ounce and a half of water. A teaspoonful twice or thrice daily.

In some cases, also, an embrocation similar to the following will produce most beneficial effects, when the other remedies do not succeed at first, if applied occasionally to the spine and chest:—A drachm of tincture of cantharides; a drachm of tincture of opium; an ounce of soap liniment.

In one case which I saw last week, in consultation, the best results attended from its employment, as it was the first remedy which checked the spasm of the hands and feet.

Assafœtida enemata, likewise, will be found to relieve the little patients from some of the troublesome symptoms.

[Depletion is seldom required, even if the child is attacked by general convulsions. The very best remedy, even in severe cases, is change of air, as soon as the bowels are freely opened.]

Lancet, May 8, 1847, *p*. 481.

44.—*Laryngismus Stridulus cured by Ether Inhalation.* By W. E. Image, Esq., Surgeon to the Suffolk Hospital.—[A strong boy, of a year old, had repeated attacks of crowing inspiration.]

The severity of the attacks daily increased. The crowing breathing was now succeeded by a state almost approaching to asphyxia. The gums were well and repeatedly lanced; the bowels well relieved by purgative medicines; leeches and blister to the nape of the neck, mustard to the legs, hot baths, and cold water to the head at the same time, with other remedies, were used, but without advantage. The attacks increased in frequency and severity. At length he had so severe a paroxysm that he remained two minutes and a half quite unable to breathe. His lips and face were purple; pupils dilated. The body became covered with cold perspiration, and he appeared to be dying. His recovery from this frightful attack was very prolonged. His intellect was not restored till the following day. It was now agreed to apply ether to the nose and mouth on the slightest approach of spasm. Two days after this attack he began to crow as before, and every appearance of a severe attack presented itself. Ether, poured on sponge, was instantly applied to the nose and mouth. The spasms increased for a few seconds, and then perfectly subsided, and the child was well again. For four days the spasms recurred, but were instantly overcome by the ether-vapour, and from that period the child has remained free from an attack, and is perfectly well.

Provincial Med. and Surg. Journal, June 2, 1847, *p*. 294.

45.—*Treatment of Hooping Cough.*—Professor Trousseau recommends the following solution of nitrate of silver in cases of hooping-cough:—℞. Aq. distil., ℥j.; syrup. simplicis, ℥ss.; argenti nitratis, gr. one-fifth: to be taken daily.—*Bulletin de Thérapeutique.*

Medical Times, May 1, 1847, *p.* 200.

46.—*On Pneumonia in Children.*—By M. Guersent.—There are two forms of pneumonia in children, distinguished alike by their anatomical lesions, the conditions under which they are developed, the symptoms which characterise them, and the results of treatment. Lobular pneumonia, and lobar pneumonia, do not occur at the same epoch of life among children. From the age of eighteen months, to that of five or six years, inflammation only occupies a certain number of lobules. Beyond this age, however, it invades large portions of the pulmonary tissue, and resembles, consequently, pneumonia of the adult.

Lobular pneumonia presents two varieties; one lobular, properly so called; the other mammalated—that is, one where the inflammation is disseminated, and only occupies separate lobules; the other, where the inflammation, after having existed in this state, generalizes itself, and extends over a greater or less part of the pulmonary tissue. In the first variety, the diagnosis is very difficult, if not impossible. The symptoms are those of bronchitis, with some rales, more or less coarse,—no dulness, no bronchial sound; and it is only the intensity of the dyspnœa and of the fever, which prevents our confounding this affection with simple bronchitis.

In the second variety, the catarrhal symptoms also predominate. The physical signs are still those of bronchitis; but in many parts of the chest, the dulness, bronchial sound, and bronchophony, indicate the existence of an inflammation, extended more or less over the lung. In some cases, the rales are so numerous and extended, that they mask, to a great extent, the phenomena of pneumonia. It is rare, however, that on auscultating with care the whole chest, there is not found, independent of the signs of bronchitis, a little rough respiration, or tubular sound; and in this case the diagnosis is no longer uncertain.

Lobular pneumonia is a very fatal disease. Between the ages of eighteen months and of three years, it is rare that children, entering the hospital with this disease, are cured. In private practice, however, amidst better hygienic conditions, and more careful and intelligent attendance, it has more frequently a favourable termination.

As regards treatment, the employment of emetics is very useful. Ipecacuanha, given alone, or with syrup, is of great service. As the catarrhal symptoms predominate in lobular pneumonia, it operates by unloading the bronchi, and relieving the disease of its most distressing complication. Bleedings are seldom followed by any perceptible benefit; nor does tartrate of antimony exert much influence, although its tolerance, in large doses, is rapidly established. Of all the remedies employed to combat the pneumonia itself, blisters are productive of the most marked and unequivocal good results —*L'Union Médicale*, Juin 29, 1847.

Monthly Journal, August 1847, *p.* 126.

47.—*On the Uses of Lobelia Inflata.*--By Dr. Livezey, Lumberville. U. S.—In pertussis, combining the tinct. lobel. of which Prof. Eberle speaks so highly, with the acid hydrocyan., extolled by Thompson and Roe, with equal propriety might I vaunt the recipe as a specific, as they do theirs—although such a thing as a *specific* probably does not exist, except it be sulphur for psora. In asthma. especially of a spasmodic kind, the most marked benefits result from the use of this plant singly, or combined as above—the existing disturbance of the nervous fibre of the bronchial surface, or the spasms of the mucous membrane of the bronchia are speedily allayed, and, by a short course, a cure, or a *suspension* of some length at least, is the sequence of its administration.

For an adult,

℞. Tinct. lobel. inflat. ʒi; Acid. hydrocyan. gtt. 1—11. Ter quatuorve die.

But if the paroxysm be severe, the tincture may be given in much larger doses, and repeated at short intervals, till entire relief is obtained. By this combination, I have enabled several *inveterate* cases of asthma, (which had been repeatedly prescribed for by various physicians, quacks and old women,) to pass for several months past, with a complete suspension of all their sufferings,

In diphtheritic laryngo-tracheitis, where the excitation of emesis cannot be readily accomplished, which frequently arises from the nature of the disease as well as the difficulty and unpleasantness of medicine to infants, this difficulty may be obviated by enemata, containing a portion of the tinct. lobel. or pulverized plant, which at once relaxes the system, removes the tension of the chest, changes the seat of excitement to a distant part, and emesis readily ensues; the bowels in the meanwhile are emptied of their contents, and recovery from every distressing symptom immediately follows.

In all cases of coughs, especially when inflammatory symptoms manifest themselves, as in catarrhal affections in children as well as in adults, I consider the tincture of this plant, (or infusion, when the stimulus imparted by the alcohol might be objectionable) far preferable to ipecacuanha or the tartrate of antimony and potassa, being more decisive in its effects than the former, and a better and safer nauseant than the latter, without that fear of irritating the gastro-enteric mucous membrane, the pathological condition of which has been too much overlooked by earlier writers, but which is now claiming deserved attention.

This brings me to the consideration of the lobelia inflata in febrile disorders, incident to every section of country, more or less, in summer and autumn. When it is desirable (as in fact it is always so) to lessen vascular action, and as a febrifuge, the "nitrous powders" sink into utter insignificance in comparison with this plant, which is not liable to the same objection as the tartarized antimony used in combination with calomel and the nitrate of potassa by many of the older practitioners, which too frequently increases that tenderness and erethism already existing in the mucous membrane of the stomach and intestines.

In high vascular action, also, with cerebral disturbance, when the application of cups to the nape of the neck, &c., fails in restoring rationality to the sensorium, the most admirable results follow the administration of an enema, largely composed of the lobelia; or when accompanied with enervation and subsultus tendinum, the efficacy of the enema will be much enhanced by the addition of a portion of pulv. valer. and tinct. capsicum or camphor, which when thus combined produces a powerfully revellent action, changes the scene of excitement, and leaves the cerebral functions free.

Finally. In strangulated hernia, or in reducing dislocations of the larger articulations, where great relaxation is necessary, a powerful enema of the plant, or of the bruised seeds, will fully answer the expectation of the medical attendant—attended too with equal benefit and much more safety than the tobacco injection used in the former difficulty, and will dispense with venesection, the tartarized antimony, and generally the hot bath, so universally recommended to overcome the rigidity of the muscular fibre.

These are the chief diseases of importance in which I have administered the lobelia inflata with entire satisfaction, and with a relief so prompt and decisive, as at once both astonished and delighted the patient.

Medical Examiner, (U. S) *July*, 1846, *p.* 405.

48.—*Observations on Tubercle.*—By Dr. Wm. Addison, F.R.S., &c. – *Seat and Nature of Tubercles in the Lungs.*—Tubercular consumption and phthisis are terms used to designate that species of disease which consists in the filling up of the air-cells of the lungs, and the destruction of their vascular walls, by a soft, brittle, white matter, named tubercle, or tuberculous matter. The best and most recent pathologists have differed in their statements and opinions regarding the seat and nature of tubercles in the lungs, nor are they agreed as to the changes they undergo. Laennec describes them as small, firm bodies, which gradually enlarge, then soften, and by degrees become converted into a liquid mass. Andral differs somewhat from Laennec: he says that tubercles soften, not from any spontaneous changes in themselves, but from an admixture of purulent matter poured out from the living texture immediately surrounding them. Dr. Carswell states that tubercles originate from morbid changes in the blood, and that their most frequent seat is the surface of the mucous membranes; this author believing, in common with many others, that the membrane of the air-cells of the lungs is a mucous membrane. Dr. C. J. B. Williams states that "lymph, pus, and tubercle, pass by imperceptible gradations into each other;" and in this opinion I concur, in so far as that pus may pass into tubercle or mucus by the rupture of its cells, or into a mixture of tuberculous and mucous matter; but the reverse never occurs.

Tubercles exist in the lungs more frequently than is generally imagined. Of the numerous apparently healthy lungs which I have examined in the course of my researches, I have found them in about one-third. In their early state, they escape notice, unless searched for with a lens in very thin sections, gently extended upon a dark back-ground. In order to make out correctly the primary situation of the tubercle, the examination should be made in the lungs of young persons who have died of other diseases; for in those who die of consumption, so many changes have taken place, and the several textures of the lungs have been so altered, that it is impossible to find tubercles in that early condition in which alone their situation, in or upon the membrane of the air-cells, can be determined.

I have repeatedly examined with the microscope the material deposited in the air-cells of the lungs in *pneumonia*, and compared its characters and appearance with that forming a tubercle, without being able to detect any more essential or constant difference between them than exists between recently excreted and old pus. The same class of objects—incoherent colourless cells, molecules, and granular matter, appears to constitute the material in both cases—and in both cases, also, the material takes primarily the shape of the air cells in which it is seated. In the material forming the consolidation resulting from inflammation, incoherent cellular forms predominate, as they do in recent pus; whereas in tuberculous matter, granular masses and molecules greatly predominate, as is also the case in old pus. And were we to imagine the fluid element of old pus removed or absorbed, the remaining solid matter would be, in my opinion, tuberculous matter; the colourless elements of blood, pus, and tubercle, passing into each other.

In pneumonia, the consolidating material is, as it were, suddenly thrown out over a wide extent of lung. All the blood-vessels are loaded with colourless elements. The blood itself, when withdrawn, assumes a buffy coat, and the texture, from the various blendings of the red colour of the blood with the white colour of the new material separated from it, assumes various hues between dark red and whitish yellow.

In phthisis, on the other hand, the consolidating material is deposited at distant points, in a much slower manner; and I have seen sections of the lung display an appearance precisely analogous, and indeed very similar, to that of the face in small pox, and this in a patient who did not die of consumption.

My researches have been in like manner extended to the characters and appearances presented under the microscope by the material taken from pimples, boils, and all kinds of eruptions on the skin; and in all these instances, incoherent colourless cells, granular matter, and molecules, have been found in the greatest abundance. Moreover,—and it is a fact of much importance,—the same objects have been detected, not only in the fixed textures surrounding the morbid matter, but likewise in blood taken from the vessels administering to their nutrition. And it would appear, that when any texture becomes involved in a hurtful or destructive inflammation, or in a tuberculous or scrofulous disease, its structural elements, whatever may be their normal qualities or characters, become more and more uniform, and at length corpuscular, the corpuscles being apparently identical with those circulating in the blood.

It has been said that tubercles arise from "an error of nutrition," which is perfectly true, but no practical advantage is derived from the use of a few words which are applicable alike to all diseases.

Lancet, May 29, 1847, *p.* 555.

49.—*On the Nature of Tubercle.*—By DR. BAUMGAERTNER.—Tubercles first appear in small, grey, semitransparent points. If such a small mass be removed and examined, it is found to be divisable into smaller masses. If examined by the microscope, these are seen to consist of small granular bodies and globules, the latter being contained in a granular cell, which adheres to the next adjoining cell. Baumgaertner thinks there is no doubt, that the formation of tubercle commences with the formation of simple granular bodies, that these cohere, and a globule is formed, and after that a granular cell, the process being in fact analogous to that exhibited in the development of the ovum.

The caseous matter of tubercles consist of small granular bodies which are not widely dissimilar from the formative globules (previously described) of the frog's ovum, such as they appear immediately after the formation of granules. If the caseous matter be in a more advanced stage of softening, it is found to consist almost altogether of globules, or cells containing a granule, their parietes being also somewhat granular. In proportion as the tubercular matter approaches the stage of suppuration, the granular bodies disappear, and the pus-globules (having a cell contained in a cell) become more numerous and interspersed with transparent molecules.

From these and similar results of microscopical investigation, Baumgaertner is led to think, that tubercle is a species of false membrane, and that their formative process is analogous, in all respects to the formative process observed in the development of the ovum. The granular bodies are analogous to those of the yelk, which they resemble; out of them, as out of the latter, formative globules are developed, and then these latter change into cells. Here, however, the analogy ceases. The cells of the healthy process unite together to form the different tissues; the pus-cells remain in this low stage of development.

British and Foreign Medical Review, July, 1847, *p.* 135.

50.—*On the Relation between Scrofula and Tubercle.*—By Dr. W. H. WILLSHIRE, Physician to the Surrey Dispensary, &c.—[Dr. Willshire thus states his views respecting the relation between scrofula and tubercle.]

1. In a scrofulous individual there is a morbid state of the blood; and one of the most usual tendencies of such a state of circulating fluid is, that during the nutrition of organs, &c., or what is called

by physiologists, the organic assimilation of tissues, *tubercle*, as a perversion of such act, shall be formed.

2. It is equally a law attendant upon this condition of blood that inflammation of a specific or peculiar character, often proceeding to exudation, to suppuration, or ulceration, is very liable to attack particular portions of the body.

Now, you will observe that I make both a specific inflammation and the deposit of tubercle the evidences of scrofulous disease—in short that they are the disease. What I would now particularly impress upon you is, that this *tendency* to deposit tubercle in a scrofulous person may in many cases never be consummated by its actual deposit, and that the occurrence of the specific or scrofulous inflammation, &c., in various parts of the body, producing, however, disorder which may be even fatal, alone constitutes in many persons the disease. Thus, you will find children suffering under scrofulous conjunctivitis, otitis, lymphadenitis, disease of the bones and joints, in whom you have no evidence that deposit of a specific character has as yet ensued, and yet these children may be, if I am allowed the expression, *saturated with scrofula.* It is true that sooner or later, after inflammation of a scrofulous character has been going on in the glands and bones, deposits are found; but this inflammation may exist to a certain extent without them, and, when the latter are found, it is very doubtful in my mind whether the "yellow lardaceous deposit" of the cancellated tissue of the bones, and certain other deposits, are really tubercles or not. Many persons have examined the "cheesy matter" of the lymphatic glands, the "yellow lardaceous deposit" of the bones, under the microscope, and say that it is impossible to find any essential mark of difference between them and the tuberculous matter of the lungs. Be this as it may, it is not necessary, in my opinion, for the establishment of the existence of scrofulous inflammation, that it should be proved to be either followed or preceded by deposit of a specific character. Whenever scrofula is openly manifested as a *disease*, we *must* have either one or other of two things going on: we *may* have, or have had, or shall have, both, viz., inflammation presenting peculiarity of form and results, or the deposit of tubercular matter; the former may take place without the latter, and the latter without necessarily being preceded by the former—at least, in my opinion.

It is probable—I have stated my belief elsewhere, in other words, that it *is* so—that in different constitutions the disposition, more particularly either to the inflammatory forms or to the tuberculous, exists, whilst in others they may both run together. But that the two are antagonistic, instead of being different manifestations of the same general diathesis and constitution of body, is a view of the question, I most entirely abrogate.

In allusion to the tuberculous forms of scrofulous disorder, there is a point of great interest and importance, in my mind, and to which I would direct your attention for a moment. It is to a means of diagnosis I refer—a means I have no where read about, nor did I hear anything of it until I alluded to it one evening at the London Medical Society, where, although certain statements were made, I heard nothing to warrant me in refusing myself the credit, if there is any, of its first promulgation. It is this: you shall have a child brought to you who has dark irides, no colour in the cheeks, and darkish hair; the eye is often very full and large—looking (to use the words of one of the late house-surgeons of the infirmary to whom I was talking about the subject) "as if they would eat you;" the eyelashes very long, close together, so long as sometimes to be three or four times their common length: I have seen them so long that when the eye was closed they quite rested on the cheek. Now if you examine the forehead of such a child, you will find it covered with close-lying hair, sometimes almost down to the eyebrows; if you strip the child you will find its arms covered too, and the back from the hair of the head down between the shoulder blades quite hairy, the hairs often being very thickly placed, and dark in colour; in fact the child is quite a hairy child—not quite an Orson but still very hairy. Often indeed the whole appearance of the patient is cachectic as well. Now, in nine cases out ten, such a child is tuberculous, it either has tubercles already deposited, or else is liable, is tending to it, and that perhaps in almost every organ of the body, and in the lungs especially. This hairy condition in a cechectic or unhealthy-looking child is a sign, generally speaking, of a constitution miserable in the extreme—saturated with scrofula.

Sometimes you will find this hairy condition in rather light haired children too; I do not mean the very fair ones, but still not the dark; and then the hair has the peculiar rough, scrubby, unglossy, dry, or harsh character you so often find that it has in light-haired girls or young men in the more advanced stage of pulmonary consumption.

Medical Times, April 10, 1847, *p.* 128.

51.—*On the Distribution of Tubercular Matter in the Organs of Children.* By Dr. W. H. Willshire, Physician to the Surrey Dispensary, &c.—[Speaking of the general pathology of tubercle, and the organs in children, in which it is most frequently deposited, Dr. Willshire observes:]

There is a difference between its *distribution*, if I may so call it, in adult life, to that in infantile; but you may know that, as relates to the adult, it has been said that tubercles are never developed in any organ after fifteen years of age, without being also developed in the lungs.

A great law for you to remember with regard to children is, the *great diffusion of the deposit throughout the body;* and this, you know, is certainly not the case with adults. You may examine a child after death, and it will be one of the most astonishing things for you to behold how universally this product is deposited, and how the various organs are *loaded* with tubercle.

The spleen has astonished me, perhaps, more than any other organ. I have seen it an entire mass of tuberculous matter of the densest kind. You will generally find that those organs which undergo tuberculosis more frequently, undergo it more abundantly and intensely too. Perhaps there is an exception to this, however, in the mesenteric glands and small intestines. In the former, very intense tuberculosis is not common, but of a moderate degree is more frequent than in the latter; whilst it is more intense in the latter, but certainly not so frequent. In children the bronchial glands play a very prominent part in the history of tubercle, and the coverings of the brain a very important and interesting one too. The heart is one of the organs of the body in children, as well as in adults, most unfrequently affected, and the stomach is very rarely so indeed. The peritoneum undergoes tuberculosis not unfrequently; and the false layers which are developed near it, and the intestines, may become charged with the deposit. In the liver it is not uncommonly met with; whilst, perhaps, you know it is rare there in adults, who, especially in France, have "fatty liver" instead. I do not know that I have ever seen the pancreas affected, but others have. The spleen, on the other hand, is very frequently in children loaded with tubercle, but its deposit in the kidneys is far less common. I have never seen it in the bladder or uterus, or in the ureters; others have. Nor have I seen it in children in the testicle, but still such cases are recorded to exist. Some persons also have found, they say, tuberculous deposit in the membrane of the tympanum, and suggest that from time to time it might be met with even in the membranes of the organ of vision. Of such extreme cases I can say nothing at all.

I have already told you it is not uncommon in the meninges, nor is it in the mass of the brain or cerebellum. The spinal cord has been seen attacked, especially the upper portion, by several observers. With regard to the bones—*deposit*, whatever it may be, is common, nay, constant, in their cancellated tissue on the occurrence of the "scrofulous disease of the joints." But still undoubted *tubercles* are admitted to occur in the osseous tissue, even by those who deny the "yellow lardaceous matter" to be identical with common tuberculous matter; but, then, such is rare. So is "cheesy matter" common enough in the lymphatic glands, and this, whether it be exactly the same as tubercle or not, is only common to scrofulous disorder.

Medical Times, May 8, 1847, *p.* 209.

52.—*On the Nature of Phthisis, and its Relation to Diabetes.*—By M. Bouchardat. (Translated by A. Markwick, Esq.)—[M. Bouchardat controverts the opinion of phthisis being a local disease, whether so expressed, or implied by the adoption of local counter-irritating treatment.]

This opinion, says he, on the nature of pulmonary consumption is one of the worst that can be formed; the reality is not sought for, but a vain fancy followed, and the disease itself allowed to increase daily in severity, and at length to become incurable, without any useful means being resorted to to oppose it.

I am about to defend an opinion which is to lead to quite a different mode of treatment, but which will often present, in its application, numerous difficulties, and require special researches to be made.

According to a careful microscopical examination, and a complete chemical analysis, the results of which I intend to publish elsewhere, it appears that tubercle is formed by the reunion of *particular globules*, which have no existence in the animal economy in the healthy state. These particular globules become developed spontaneously in the bodies of animals that are placed under certain circumstances which will presently be more particularly alluded to. These globules unite and coalesce, and become destroyed by giving rise to secondary products, and to fresh organized globules; they invade every organ, but more particularly the more susceptible ones—those, in fact, of the most *delicate* structure, such, for instance, as the lungs.

If this opinion be admitted *á priori*, and its value is proved by subsequent experience, we are then naturally led to inquire after the cause or causes which place the animal economy in such a condition that the tubercular globule becomes spontaneously developed. If we are fortunate enough to discover the cause or causes, then all doubt as to the treatment ceases; it becomes then truly physiological.

The majority of those physicians who at the present day adopt an opinion analogous to the one I have just expressed on the nature of the tubercular affection will reply without hesitation. But the true cause of the disease is a particular *diathesis;* and to them, this word diathesis is something mysterious—something inaccessible to our researches. This habit of being contented with words is but too common in pathology, and is almost as dangerous as being in error.

If we apply this method to the study of phthisis, we at once find that the tubercular globule becomes developed in individuals that are reduced either by bad nourishment, or by the excessive, continued, and unrepaired loss of some fluid essential to the animal economy, such as the lymph and the serum, from two abundant suppurations, or the spermatic fluid from venereal excesses, &c.

It will be perceived that the causes of debility which may bring about the spontaneous evolution of the tubercular globule are both complex and numerous.

[M. Bouchardat remarks upon the almost constant occurrence of tubercles in the lungs of diabetic patients: and gives his opinion that many tubercular affections originate in a slight diabetic attack.

Beginning with the above fact, he thus attempts to make out the etiology of tubercular disease:—]

When a patient labouring under diabetes dies slowly from the constant progress of the disease, without the occurrence of any other accident, tubercles are invariably found in the lungs after death.

Here, then, are individuals with sound lungs, in whom the development of tubercles may be foretold. Therefore, as we now know the nature of diabetes, we may, for this particular case, arrive at a positive etiology of the tubercular affection.

In what does a diabetic patient chiefly differ from a man in health ? More particularly in this, that in the healthy person the feculent food dissolved in the digestive apparatus, and carried slowly into the circulation, is there completely consumed, no trace of it being afterwards found either in the fæces or in the urine; whereas, in the diabetic, the feculents, rapidily converted into the glucose in the stomach, are immediately absorbed; and this glucose, being in too large a proportion in the circulating apparatus to be normally destroyed, becomes eliminated by the kidneys. Hence there are three important circumstances which distinguish the diabetic from the healthy individual, viz. :—1, the perversion of the functions of the stomach, causing a rapid solution of the feculents; 2, the existence of a large quantity of glucose in the blood; 3, great activity of the secreting organs of the urine to get rid of the glucose. Important consequences proceed from these differences.

The active powers of the digestive organs, and the secreting apparatus of the urine, are uselessly employed for the support and repair of the animal economy. The nature of the transformations which the nutritive fluid is continually undergoing is modified by the presence of a considerable proportion of glucose in the blood. The food dissolved in the digestive apparatus being no longer usefully employed, the patient is supported at the expense of himself; hence the emaciation and wasting, with all its results. Now, the necessary effect of this anomalous condition is the spontaneous production, and the localization in the lungs, of tubercular globules, which eventually, by their successive agglomeration, invade this organ and prevent its important functions.

The causes of the spontaneous evolution of tubercles for this particular condition are thus clearly established :—

1. Perversion in the digestion of feculents.
2. Presence in the blood of a variable proportion of glucose.
3. Elimination of the glucose by the kidneys.
4. Replacing the glucose eliminated, by the slow destruction of the fundamental principles of the blood, the muscles, and the other organs.

May not analogous circumstances be met with in the different conditions under which tubercles become developed in the lungs or in other organs ?

Apart from these cases, in which tubercles are developed as the result of the perversion in the digestion of feculents, can we not easily understand that other perversions in the important function of nutrition may cause the development of the tubercular affection? I hope, when our great work on digestion is completed, to be able to return to the nature of these perversions, which may be suspected after what we have published. I think, therefore, it would be of the greatest importance to make some careful and accurate investigations into the manner in which the digestion and the assimilation of the different aliments takes place in persons in whom phthisis has just commenced, or who are threatened with this disease. We should then establish an equation, as I have done with respect to diabetes; the food and drink would form its first term, and the principles contained in the fæces, the urine, and the other products of secretion or otherwise, the nature or quantity of which could be appreciated, the second. These investigations would lead to results equally precise with those I have obtained in diabetes. We may resume the contents of this paper in the following propositions:—

1. The cause of the development of tubercles in the lungs in diabetes is a defect in nutrition and assimilation.

2. The tubercular affection has its origin, much more frequently than is imagined, in a defect in nutrition and assimilation, which cannot be known, and which can only be remedied by establishing an exact balance between the *ingesta* and the *excreta.*

3. It likewise originates in the excessive, continued, and unrestrained losses of fluids that are essential to the economy.

4. When a patient becomes emaciated, it is important to ascertain as soon as possible the cause of the emaciation, and to remedy it; we should thus alter the conditions which give rise to the spontaneous evolution of the tubercular globules.

Medical Times, May 1, 1847, *p.* 194.

53.—*On the Curability of Phthisis.*—The writings of Laennec, Andral, Cruveilhier, Stokes, Williams, and others, prove that many cases of pulmonary phthisis have, contrary to all expectation, recovered; and that at a subsequent period, death having occurred from some other malady, the lungs have been found puckered and cicatrized from the healing of the tubercular cavern. The more recent researches of Rogée and Boudet in Paris, and J. Hughes Bennett in Edinburgh, have shown, from the indiscriminate examination in large hospitals, that puckerings, cicatrices, cretaceous concretions, and other evidences of former tubercle in the lungs, occur in at least one-third of all the individuals who die after the age of forty in this climate. Facts therefore indicate, that so far is pulmonary tubercle from being necessarily fatal, that it is spontaneously cured by nature in a vast number of cases, and that in not a few this is accomplished, even when large ulcers have been formed in the lungs, and all those symptoms present which are considered evidences of so-called consumption.

The curability of (understanding by that term recovery from) phthisis pulmonalis, is a matter therefore which no longer admits of dispute. It is a fact as certain as the curability of pneumonia, or the union of a fracture, and, like the latter, is susceptable of demonstration by means of well-preserved preparations.

***Monthly Journal, Oct.*, 1847, *p.* 264.**

54.—*On the Treatment of Phthisis.*—By DR. RIOFERY.—In theory it is easy to understand that in a lung, where there is a lesion of the parenchyma and softening of the tubercle, it is necessary that reparative elements should arrive in one way or another. The fatty element contains these reparative principles in an eminent degree. Fibrine is found already formed in animal bodies. If vegetables are less nourishing than the elements derived from the animal kingdom, it is that the animal kingdom furnishes fibrine ready formed. Now, in the softening of tubercles or the expectoration of blood or pus from the lungs, the patient loses fibrine,—he loses the nutritive reparative substance; and in such circumstances there are men rendered sufficiently insensate by a system, to bleed their patients without ceasing, in order to deprive them of nourishment. There are others sufficiently blind to expect miracles from the use of kitchen salt, chlorine, ammonia, or tar. Are you astonished when you see sensible men, regular physicians, under the empire of a systematic hallucination? Are you astonished that charlatans succeed? Do you know who are those who do succeed? They are those who have to treat patients debilitated by bleeding, leeches, and low diet.

I have said that the fatty element plays many parts. In fact, it furnishes indispensable materials to respiratory combustion. Is it not fat which furnishes materials for combustion in hybernating animals? Is it not fat which is placed by the modern savants at the head of agents of respiration, in other words, aliments of respiration? If there is not in the human body, either in a state of sequestration and reserve, or by nutrition, agents of respiration sufficient to serve this function, respiration attacks the sources of life in taking from the tissues themselves the elements indispensable for its exercise.

All the sciences are linked together, and the beautiful researches of Liebig, Dumas, Payen, and Boussingault will do more for the treatment of phthisis than the descriptions of many pathologists.—Agriculturists fatten their phthisical cows. When convinced that their cows are in this state, they force forwards the development of the fatty element. Emaciation soon ceases, and the life of these animals would be very long, although they had been phthisical, if the butcher did not put an end to it.

Monthly Journal, Oct., 1847, *p.* 269.

55.—*On the Treatment of Phthisis by Cod-Liver Oil.*—By Dr. W. H. Madden, Physician to the Torbay Dispensary, Torquay.—[Dr. Madden finds iodine of some value in the treatment of phthisis; as also, and more especially, preparations of iron, which, when given with discrimination, will generally be borne. He says,—]

A very elegant and agreeable preparation is made by dissolving the proper quantity of the ammonio-citrate with ʒ iss. or ʒ ij. of the liq. ammon. sesquicarb. in a bottle of Schweppe's lemonade: a wine glass of this to be taken two or three times a day. If carefully made, the briskness is retained to the last, and the unpleasant styptic taste is in a great measure concealed.

My experience of *cod-liver oil* is extremely favourable. I have seen the most marked improvement follow upon its steady employment; the cough becoming less troublesome, and the expectoration less copious; the appetite better, and the emaciation arrested, and even a decided and manifest increase of flesh take place in many cases. That it will *cure* consumption I do not say, but that it is most efficacious in bringing about a more healthy general condition of body, in which nutrition is carried on more satisfactorily, and the morbid deposition is, for a time at least, greatly checked, I feel I am warranted in affirming, from the result of many trials, both in my own practice and in that of my friend and partner, Dr. Battersby.

[The first case was one of pneumonic phthisis, with a considerable tubercular abscess, and all the usual accompanying symptoms. He took cod-liver oil for two months, when all the symptoms were relieved, and the disease appeared to be arrested. The other cases we will quote in full.]

Case 2.—Miss W., æt. 20, has lost her mother and four sisters from phthisis. Her illness commenced about a year and four months ago, as an ordinary cold and cough, which continued for three or four months, when she had a very severe attack of hæmoptysis, which lasted for some weeks, and of which she had frequent returns. During all this time her cough never ceased, and she lost flesh and strength. After being for three months under Dr. Ramadge's care, she, in January, 1846, consulted Dr. C. J. B. Williams, who sent her immediately to Torquay. She was at this time greatly emaciated; had frequent cough; profuse expectoration; night perspirations; hectic, &c.; slept very badly even with morphia; appetite bad; pulse 130. Catamenia have not appeared for four months; bowels irregular. The upper part of the left lung much diseased, and a little below the clavicle is a cavity of some extent. She is unable to lie on the left side in consequence of the violent coughing that posture induces.

After having made trial of the ordinary remedies without much benefit, about two months ago I commenced cod-liver oil in small doses, which have been gradually increased to ℥ss. ter die, and continued until about a fortnight ago, when I ordered effervescing citrate of iron instead.

April 30th.—Present state. Looks fat and robust; sleeps well without any sedative; has had no night perspirations for some time; great improvement in her appetite; eats two eggs daily for breakfast; cough almost gone; bowels regular; tongue clean. She used to suffer much from pain in the stomach after meals; this has now quite gone. The catamenia appeared a few days ago, after six months' interruption.

In the two next cases the disease proved ultimately fatal, but the beneficial operation of the oil was in both most marked. The progress of the malady was evidently arrested for some time, and the comfort of the patients greatly enhanced by the amelioration of their worst and most distressing symptoms.

Case 3.—Mrs. B., æt. 26, fair complexion, enjoyed good health till after marriage, and attributes the commencement of her illness to the debility caused by repeated miscarriages, of which she has had fourteen. Had a severe cough eighteen months ago, which has continued with more or less severity ever since. About twelve months back had an attack of hæmoptysis, which returned for eight months, about a week previous to each catamenial period. Saw Sir J. Clark last June, who considered her case so hopeless that he dissuaded her husband from taking her to Maderia. Came to Torquay in the following September. At that time the right lung was extensively diseased; there was a large cavity in the upper part, and the chest had become much flattened over it. The pulse was very frequent; no appetite; little sleep; night perspirations, and profuse purulent expectoration. She was unable to lie on the right side; bowels regular, as also the catamenia.

She improved a little at first, under the use of naphtha, but this did not continue long; the catamenia became irregular, and, after February, did not return: she had slight hæmoptysis occasionally; lost flesh and strength, and the disease began to make a rapid progress.

About three months ago, I commenced giving cod-liver oil, which she still takes. Present state, May 1st, 1846.—Thinks that for the last month she has decidedly improved in strength and flesh; has still slight perspirations at night; the catamenia returned last period; the cough is less troublesome, and the expectoration (which has still the same character) is not now the fourth part of what it had been. The appetite is also improved, but this may in part be attributed to small doses of quinine, which I have lately given in addition to the oil: the right lung is almost entirely disorganised, but the left still remains free from disease.

This lady returned to Torquay last winter, and died rather suddenly of hæmorrhage on May 20th, 1847.

Case 4.—Master C., æt. 16, very strumous, has lost three brothers and sisters from phthisis, out of a family of five: dates the commencement of his illness from November, 1844, when he had an attack of bronchitis: this was followed in January by hæmoptysis, which was very profuse. His cough continued, and in July, 1845, he consulted Dr. Chambers who sent him here. Previous to going to London, he had suffered from ague in June; but this had been relieved before he left Lincolnshire, although not quite cured. On his arrival here, the left lung was considerably diseased; there was extensive dulness and flattening of the chest under the left clavicle, extending to the nipple, and tubercular softening had commenced: this soon led to the formation of a cavity.

During the winter he had repeated attacks of hæmoptysis. The disease extended to the right lung; the expectoration became profuse and muco-purulent; his appetite failed; night perspirations became very profuse, and he fell into an apparently hopeless state.

In addition to this, the ague returned, and though it yielded, after some time, to quinine, a feeling of chilliness and discomfort continued to distress him, at regular intervals, for weeks afterwards.

Being greatly urged by some foolish friends, and seeing that the usual remedies failed in arresting the disease, his mother was prevailed on, in February, to try homœopathy, and he continued under this treatment for a month, without any improvement, the disease advancing with even greater rapidity. At this time, another attack of hæmoptysis came on, and he was again put under my charge. After subduing the hæmorrhage, I determined to try cod-liver oil, and began with small doses, ʒi. t. d., which were gradually increased to ℥ss. This remedy he has continued to take for upwards of three months and a half, during which period there has been a steady improvement in his general health: the night perspirations have totally ceased; his appetite has returned; the cough has been much less troublesome; he can lie on either side; and, after having been confined to the house for upwards of five months, and a great portion of that time to his bed, he is now able to take advantage of the warm weather, and walks or takes a short ride daily. During the use of the oil, his tongue has been remarkably clean, and he has required no aperient medicine; the bowels which before had acted irregularly, performing their functions quite naturally.

June 15th, 1846.—Respiration is more audible in both lungs, especially the right; there are no mucous râles, and he can take a longer and deeper breath than on any occasion when I had previously examined him. The voice is resonant under the right clavicle, and pectoriloquy very distinct on the left side, midway between the clavicle and nipple; the voice being generally more resonant all over that side, and the respiration less distinct and audible.

He died suddenly, October 9th, 1846.

Medical Gazette, Sept. 17, 1847, *p.* 494.

56.—*New Stethoscope.*—J. S., of Chelsea, states that the stethoscope which he uses, consists of a cylinder of light porous wood, about ten inches long, two inches and a half in diameter, and half an inch thick. Over one end there is a piece of parchment tightly stretched, with the means of keeping up the requisite amount of tension; the other end is fitted with a projecting rim sufficiently large to enclose the whole of the ear. J. S. is of opinion that an instrument thus constructed is better adapted for the transmission of sound than is the stethoscope in ordinary use.

Lancet, June 19, 1847, *p.* 645.

ORGANS OF DIGESTION.

57.—ON THRUSH IN CHILDREN.

By Dr F. T. Berg, Physician to the Children's Hospital, Stockholm.

[One great object of Dr. Berg is to elucidate the microscopical character of the disease. He says,]

The white coating consists of epithelium thickened by the swelling of its constituent cells, and from this epithelium there springs a parasitic fungus in greater or less quantity, so that the chief portion of a patch of aphthæ is composed either of epithelium, or else of the parasitic growth. Now the relative proportions of these two substances seem to depend upon the length of time that has elapsed since the growth of the parasite commenced, which varies in different children, and it is also in relation to the density of the epithelial thickening. More or less of molecular albuminous matter is also to be found in these patches.

When the parasitic growth and the epithelial condensation is confined merely to the extremities of the smaller papillæ, (as at the point of the tongue) they have the appearance of small isolated specks, but when thay appear upon portions of the mucous membrane where the papillæ are less prominent and where the intervals between these are filled by a denser epithelium, (such as is seen on all parts of the mucous membrane of the mouth save on the upper surface of the tongue,) the white coating then assumes those forms of circles, of interlacing bands, or of hemispherical elevations, so frequently observed in parasitic vegetations, where they are permitted to increase freely without any mechanical obstacle to their growth. Lastly, when both the epithelial and the parasitic growths alike proceed vigorously, those spots which at first were isolated, coalesce more and more into a continuous covering, the cohesion of which is maintained not merely by the natural adhesion of the epithelial cells, but also by the interlacing of the parasitic fibres, among themselves, and between the cells of the epithelium.

The fine threads or fibres of the parasite insert themselves in every direction amid the superior layer of epithelial cells, and, according to Gruby they pass even into the cells themselves. By this means they acquire a firm adhesion to the neighbouring parts, and involve many epithelial cells among their meshes. This will explain why aphthæ are so firmly attached when first formed, and will account also for their varying degrees of adhesion in different parts. Certain surfaces present numerous papillæ, and these latter are often cloven at the summit in many directions, thus affording an innumerable quantity of furrows and depressions for receiving the fibres of the parasitic growth. In this way aphthæ become firmly fixed upon the tongue in spite of the perpetual movement of that organ, while on other parts of the buccal mucous membrane, where the papillæ are fewer, smaller, and less elevated, and rarely cloven at the summit, they adhere with much less tenacity.

It will be known however to the reader that these vegetations do not sink deeper than the epithelial layer, and that this layer is constantly renewed by the destruction of its most external cells, their place being supplied by new cells from the inferior surface. The spread of the parasitic fibres among the cells of the epithelium will tend still further to loosen the adhesion of the latter. But even these causes combined are scarcely sufficient to account for the whole process of softening and throwing off of the aphthous patches; it seems that the same *(undiscovered)* cause which renders the epithelium the appropriate soil for the growth of these parasites, produces also in its cells an operation similar to that of maceration if we may judge from the white colour assumed under such circumstances by the membrane. In consequence of this, there ensues, sooner or later, the throwing off of the whole aphthous patch with the subjacent epithelium, after which there remains the mucous membrane covered with the thinnest possible layer of recently formed epithelium; and the thinner the latter is, the deeper is the hue of the subjacent mucous membrane.

Aphthous vegetations therefore require to have a firm root among the cells of the epithelium, before they can vegetate upon those surfaces where there is a constant motion of the parts. Consequently the epithelium on which we find numerous ciliæ in constant movement is eminently unfitted for the localization of aphthæ, nor will the epithelium which is composed of a single layer of cells be better adapted to this purpose, as the membrane will then be undergoing constant and rapid change. We must therefore conclude that the best *soil* for the growth of aphthous vegetations is undoubtedly that portion of the epithelium where the absence of ciliæ gives full scope to the implantation of sporules, and where several layers of cells afford full room for the spread and interlacing of the vegetable fibres, and where, finally, the membrane being less rapidly changed, due time is allowed for the development of the vegetable growth. Such is the character of the epithelial covering from the beginning of the mucous membrane on the free edge of the lips, throughout the whole cavity of the mouth, the fauces, and œsophagus, down to the cardia, while the adhesion of the parasitic growth is greatly favoured on this surface by the numerous furrows lying between the thickly strown papillæ, and by the cloven summits of the latter as they are seen on the upper surface of the tongue.

This species of epithelial covering ceases however at the mouths of the salivary ducts, which are lined with a single layer of *cylinder epithelium;* it terminates likewise at the upper and back part of the velum palati; at the mouths of the Eustachian tubes, and at the base too of the epiglottis, immediately above the upper edge of the superior ligamenta glottidis. In all these points it is replaced by ciliated epithelium, while at the cardiac orifice of the stomach it gives place to a single layer of *cylinder-epithelium.*

Thrush a parasite. Dr. Berg considers it to be perfectly established that the parasitic growth just described is a constituent part of thrush, for the latter, he observes, is never met with without the parasite, which is to be seen at the very earliest appearance of the aphthæ, and continues present throughout the whole of their existence on the mucous membrane. "Indeed," continues he, "I do not consider those affections to be aphthous where this parasitic growth is not to be found; and lastly, I advise all who think they have observed true aphthæ without its parasitic constituent, to add a little caustic potass to the supposed aphthæ before they determine on its nature."

It is impossible indeed, according to our author, to explain the nature and course of this disease if we deny its parasitic character.

Conditions of life of the parasite. The next question discussed by Dr. Berg is the important one, whether the parasitic fungus can vegetate only on the living mucous membrane, or whether it can be produced and grow in other menstrua, and out of the human body. Many carefully conducted experiments, occupying some pages of the work, are here recorded to decide this point. We have only room for the conclusions arrived at by our author, and which he sums up as follows:

1. The aphthous parasite can propagate itself in appropriate menstrua out of the body, and this not only when the aphthous crust is mingled with various animal fluids, but also when completely separated and cleansed from these.

2. Its growth in such cases proceeds not only in a temperature equal to that of the human body, but likewise in one that is much lower.

3. Aphthæ seem to require for their growth the presence of a body containing azote, such as albumen, as also that of materials for the generation of acid.

4. Out of the body aphthæ seem to develop themselves in two different forms, either in that of a great preponderance of sporules (sporidier), when a white filmy membrane forms on the surface of the fluid; or again they appear chiefly as stems ramifying through the fluid, or aggregated into a felt-like mass.

A solution of potass will always dissolve the molecular deposit of albumen, leaving the fibres and cells of the parasite totally unchanged.

Dr. Berg admits that the parasitic growth may be propagated in bodies previously unaffected, by sporules floating in the atmosphere, particularly under certain *electro-chemical* conditions of the air, and also of the bodies they affect.

In general the colic, vomiting, and diarrhea indicating disorder of the digestive organs, are in a direct relation to the extent and severity of the aphthous affection. The green evacuations are generally acid according to Dr. Berg, and he believes this peculiar hue of the fæces to be caused by an excessive proportion of acid, or by the presence of acids which do not normally exist in the digestive tube or at least are found there in exceedingly small quantities. Our author suggests that this excess of acidity may, in part, be occasioned by the admixture of fragments of the parasitic growth with the contents of the stomach, and he hints that the action thus induced is somewhat analogous to the process of fermentation from yeast. To elucidate and confirm these suppositions Dr. Berg has carefully performed a great number of experiments.

A great difference was found in the course of these experiments between the action of the reagents on cow's milk, and on that secreted by the human female. Dr. Berg regards this as a fact of great importance in reference to the question of bringing up children by hand, instead of their deriving their nourishment from its natural source, the mother's breast; and as affording a partial explanation of the greater frequency of thrush in the one case, than in the other.

[The following, according to Dr. Berg, are the causes of the disease:]

Deficient ventilation and want of cleanliness are acknowledged by all to be a powerful predisposing cause of aphthæ. A close, confined atmosphere is eminently favorable to the growth of a low type of vegetable life, while the unfavorable influence thus exercised on the health of the child, will render it more liable to all kinds of disease.

Food and feeding. The nature of the infant's food, and likewise the mode in which nourishment is given to it, is most carefully considered by our author. If the milk be of bad quality, it must necessarily impair the health of the infant, more or less, but Dr. Berg denies the existence of any peculiar acridity in the milk of some individuals, as has been asserted and believed by the public, and by many medical men from the earliest ages to the present time. It cannot however, as he observes, be denied, that the milk occasionally undergoes such changes as to render it unfit for the nourishment of the child, but the real nature of these alterations is as yet in a great measure unknown.

Much influence is ascribed by our author to the operation of artificial food in favouring the growth of aphthæ. It is not only that such food contains an abundance of starch and sugar, but also, that in many cases it may undergo a partial chemical alteration and decomposition before it is received by the infant. Dr. Berg does not regard the practice of feeding the infant with the sucking-bottle, as injurious, but it is necessary, he observes, to be careful that the milk flows freely through the artificial nipple appended to the vessel, as otherwise he thinks that the mucous membrane of the mouth might possibly be injured by the child's strenuous efforts to extract its food. Should the opening however, be too free, then the mouth would become filled to excess with food, and this remaining more or less in that cavity, would produce injurious effects. These hints may to some appear trivial, and fit only for the consideration of mothers and nurses; but we think otherwise, and regard them as proofs of the just care and attention which Dr. Berg has bestowed on every portion of his subject.

Altered health, from whatever cause, undoubtedly predisposes children to this disease, by either producing a tendency to prolonged sleep, which eminently, in our author's opinion, favours the growth of the parasite, or in other cases by so altering the character of the secretions from the mucous membrane of the mouth as to render them important agents in augmenting the disorder. Dr, Berg does not agree with Andral and Gavarret in regarding thrush as a product of an excessive formation of albumen; he believes it to result rather from a reaction between the albumen and an acid.

Contagion. Our author adopts to the fullest extent the doctrine of the contagious nature of the malady which he describes. He believes that thrush may be conveyed from one patient to another by sporules, or fragments of sporules, in the dried state, floating in the atmosphere, but that it still more frequently is propagated by the bottles from which children with thrush have been fed, or by the nipple, especially where, as in many hospitals, two children are suckled by one nurse. To decide the question of contagion our author made numerous experiments, and the results were uniformly favorable to his previous ideas. The experiments were made by applying aphthous crusts to the mucous membrane of the mouths of perfectly healthy children, and in every instance thrush was rapidly produced.

[Strict cleanliness, and the separation of healthy from diseased children, are to be insisted on as prophylactic measures. When the disease *has* appeared, Dr. Berg suggests the possibility of checking the growth of the parasite. Upon this subject the reviewer in the British and Foreign Medical Review observes:]

Perhaps the nitrate of silver in a solution of eight grains to the ounce of distilled water may effectually prevent the increase of the malady. We ourselves know that it constantly checks its further progress, and we may perhaps hope that if it were applied in good time to the mucous membrane it would effectually arrest the tendency to the increase of the vegetation.

[In the *treatment of thrush* we must not neglect the use of either general or local measures; in particular it is necessary to take care that the milk supplied by the nurse is of good quality, as ascertainable chemically, and by the microscope. Further,]

Dr. Berg considers the disorder of the digestive functions in thrush to arise mainly from a superabundant formation of lactic, butyric, acetic, and carbonic acids, and consequently the alkalies and their carbonates are strongly recommended to neutralize the excess of acid. Of these he gives the preference to soda; but should an excessive development of gas ensue from its employment, he advises us to have recourse to "aqua calcis" and "magnesia usta," as a change of remedies is often urgently required.

Emetics are indicated when there is reason to suspect that the aphthous crusts have been swallowed to a great extent by the patient, and that they are acting injuriously on the contents of the stomach. When the child vomits spontaneously coagulated or uncoagulated milk or mucus, an emetic will have the most favourable effect. The quantity of acid generated in the intestinal canal causes an excessive formation of casein, and particles of a cheesy appearance are then passed in abundance by stool. In such cases purgatives are extremely useful in clearing the intestinal canal. For this purpose castor oil answers best, but when the bowels become slow, and much mucus is secreted from them, rhubarb and jalap should be exhibited. Calomel has very seldom been employed by Dr. Berg as a purgative in thrush.

To relieve the colicky pains and to obviate the tendency to intussusception so frequent in infants, Dr. Berg has generally employed antispasmodics and sedatives. The favourite prepation of this kind with our author is the *liq. succin. ammon.*, given either by the mouth, or in the form of an enema. In the majority of the milder cases, he has contented himself with administering a little of the *pulv. rhei.* and magnesia. Dr. Berg warns us against giving any medicines in sugar to children suffering from aphthæ. He believes it to be an injurious practice, as the sugar being converted into lactic acid, will favour the increase of the parasitic vegetation.

Local Treatment.—After a brief survey of the local remedies praised by the earlier writers, some of which are curious indeed, he observes that the local applications should be of such a nature as not to injure the epithelium on which the parasite is seated. "There is a period in the disease," he remarks, "when the aphthous crusts fall off of their own accord, and little more is then required than slightly pencilling or rubbing the affected part with a soft brush dipped in water." Dr. Berg, however, strongly advises us not to wait for this time, but, from the very beginning of the disorder to use chemical and mechanical remedies to destroy the parasite or to hinder its further extension. We cannot, however, expect to remove by direct mechanical interference the fibres of the parasitic growth, which have been shown by Dr. Berg to be so intimately interwoven with the uppermost layers of the epithelium. Our author, therefore, advises that in this stage we should have recourse to those remedies that have a gently solvent and macerating action on the epithelium. Among these he enumerates the alkaline carbonates, and also borax, while he considers the caustic alkalies to be more active in this regard, but at the same time, less safe in their application. He has also tried solutions of alum, but not with very favourable results. The solutions of corrosive sublimate recommended by Columbier and Eisenmann are, he thinks, too perilous in their application to be ordinarily prescribed. *A certain quantity of acid* appears, from our author's researches, to be requisite for the growth of the parasite, while its increase is hindered by *an excess of acid*, and therefore the mineral acids could not be used to arrest the disease, were not their local action too severe upon those parts of the mucous membrane that are still in a healthy condition. Alkaline remedies, consequently, are Dr. Berg's especial favourites. They counteract the excess of acidity so favourable to the growth of thrush, and, at the same time, soften the epithelium and aid in the throwing off of the aphthous crusts. An excess of alkali in any menstruum has been proved by Dr. Berg's experiments to arrest the increase of the parasite, and when administered to the child, alkalies probably counteract the excessive formation of lactic acid on the mucous membrane, though Dr. Berg does not positively state that they exercise a direct influence on the parasitic growth. Our author uses for this purpose solutions of subcarbonate of soda and borax, varying their strength according to the necessities of the case. The local treatment does not however end here. The constant application of alkaline solutions tends, according to our author, to diminish the thickness of the epithelial layers by their macerating and solvent properties, and thus the flood, he suspects, comes more immediately into contact with the fluids of the mouth; and he suggests that albumen may in this manner escape and become mixed with mucus; and when it comes in contact with lactic acid it will form one of the most favourable menstrua for the parasitic growth. It is in this way that Dr. Berg explains the frequency of relapses after alkaline treatment has been long employed, and he accordingly advises us then to adopt other remedies, especially astringents and the mineral acids. It is at this period too that nitrate of silver is so useful; and we ourselves have frequently administered it in the proportion of three or four grains to the ℥j. of *syrup. rheados*, though perhaps the *infus. salviæ* or some other mucilaginous preparation containing less sugar would be a more appropriate vehiculum.

British and Foreign Medical Review, Oct. 1847, *p.* 422.

58.—*On Digestion of the Mucous Membrane by the Gastric Juice, following Simple Ulcer of the Stomach.*—By Dr. Budd, F.R.S.—In cases of simple ulcer, pain of the stomach is sometimes felt when the stomach is empty of food; and, with thirst and an impaired appetite, there are frequently sour eructations and occasional vomiting of a sour fluid. These symptoms seem to depend mainly on the presence of gastric juice, or its acid, in the otherwise empty stomach. It is easy to conceive that the flow of the juice may be excited in the empty stomach by the irritation of the ulcer, or its secretions, just as it was in the experiments of Spallanzani by the mechanical irritation of pebbles, or of bits of sponge, or glass.

Digestion of the stomach, in a high degree, is found much more frequently in persons, and especially in women, who die of phthisis,

This digestion of the stomach has been well described by Louis. who was not, however, aware of its real nature. In his elaborate work on phthisis, he states that he observed it in about one-fifth of the persons he examined who died of this disease.

The persons in whom it is found, have generally had, for some weeks, and often for several months before death, much disorder of the stomach; pain and tenderness at the epigastrium, loss of appetite, thirst, frequent vomiting, (the matters vomited being slightly acid,) or frequent nausea.

This gastric disorder, which is extremely common in the advanced stages of phthisis, exhausts the strength, and sometimes attracts more of the patient's attention than the primary disease of the lung. The frequent occurrence of the peculiar softening of the coats of the stomach, caused by the gastric juice, after death, in the persons in whom it has existed, shows that this disorder is associated with increased secretion of gastric juice, or with the presence of gastric juice, or its acid, in the otherwise empty stomach. It is not improbable that, in these cases, the flow of gastric juice in the empty stomach is excited by irritation of the lung, just as it was excited by Spallanzani, in his own person, by voluntary irritation of the fauces.

The most efficient remedy for this gastric disorder is liquor potassæ, or some other alkali, which neutralizes the gastric acid, and thus renders the fluid inert, Fifteen drops of liquor potassæ, or twenty grains of bicarbonate of potash, three times a day, hardly ever fail to stop the nausea, and to allay or much mitigate the pain. The vomiting and pain may likewise be stopped, in the great majority of cases, by vegetable astringents. The mildest and most efficient is an infusion of log-wood, which I have long been in the habit of using, in doses of ℥j. three times a day, to quiet this gastric disorder, as well as to arrest diarrhœa.

Medical Gazette, *June* 4, 1847, *p.* 983.

59.—*On Simple Ulceration of the Stomach, going on to Perforation.*—By Dr. E. Seymour, F.R.S., late Physician to St. George's Hospital.—[The symptoms of this disease, in its early stage, are not yet defined. Dr. Seymour has found, that before the fatal seizure, the patient has long felt pain after eating, unaccompanied with symptoms of acidity; and aggravated sometimes by one kind of food, and sometimes by another, but most commonly by solid meat. As to treatment, Dr. S. observes:—]

In the treatment of such cases, when there is real reason to suspect so serious a disease, soothing remedies seem to be indicated. The bowels should be carefully kept open by enemata, so as to prevent any acrid medicine coming in contact with the ulcer; and occasional blisters to the epigastrium may be expected to be useful. Where the existence of the complaint is more clear, from the preceding pain and the subsequent vomiting of blood, a case which I have frequently seen, I know of no remedy so uniformly successful as the oil of turpentine taken internally.

In three cases where the patients had suffered from this disease, and the hæmorrhage had entirely ceased under the use of the oil of turpentine, healed ulcers into which small branches of arteries could be traced, were observed in the surface, I believe in all, on the posterior surface of the stomach; but in a great many more cases where the patients are still living after the lapse of several years, and where, of course, the cure cannot be proved, the disease gave way to the use of oil of turpentine. Not only were large quantities of blood vomited in such cases, but large quantities passed half digested from the bowels, under the form of thick matter, resembling soot in appearance. I do not remember to have witnessed a single case in which this treatment has failed; and, notwithstanding that the medicine is very nauseous, it rarely happens that it is rejected by vomiting.

Medical Gazette, May 14, 1847, *p* 864.

60.—*Observations on Disorder of the Stomach.*—By Dr. E. SEYMOUR, late Physician to St. George's Hospital.—Pain dependent on excess of acid in the stomach, often becomes attended with great irritability of the heart and pulsation in the epigastrium, so that the patient is led to believe that he is suffering from disease of the heart, or aneurism of the aorta. These alarming symptoms are cured by the regular administration of antacid medicines with sedatives, or alkalies with rhubarb and calumba root. His formula is rhubarb, six grains; bicarbonate of soda, fifteen grains; calumba powder, three grains; compound cinnamon powder, two grains; to be taken in a glass of water, before dinner or at bedtime, and continued regularly during at least a fortnight. Pain without heartburn or vomiting, is most likely to be the result of irregular contraction of the stomach, in which case he relies on bismuth with magnesia, in the following formula—trinitrate of bismuth, calcined magnesia, compound tragacanth powder, of each a scruple: rub together, and add water an ounce and a half; syrup half a drachm: this draught to be taken every four hours. He says bismuth is highly useful in all painful spasm arising from disorder in the intestinal canal, and states from his own knowledge that it was used with much effect at Moscow in the spasms of the Asiatic cholera in 1831. Some of our readers may remember that the late Dr. Abercrombie had so high an opinion of the efficacy of bismuth in such cases, as to recommend the trial of it, in a little tract which he published just before the Asiatic cholera visited this country. When the use of bismuth was first revived on the recommendation of Dr. Odier, of Geneva, it was common to join it with tragacanth powder, as in Dr. Seymour's formula, with the purpose of sheathing the stomach from its acrimony. This practice has been little followed of late, though when the dose used is so large as twenty grains, it might be safer to retain the tragacanth. He regards the hydrocyanic acid as having a similar power, but less effectual. When the pain of the stomach resists this treatment, he trusts to a grain of opium administered thrice daily; the bowels being in the meantime kept open by injections. In simple pyrosis he employs the compound powder of kino (Ph. Lond.) namely, kino and opium with cinnamon, in doses of five grains a day, the bowels being kept free by aloes, rhubarb, or enemata. A blister over the epigastric um is sometimes useful at first. When under the idea that the liver is diseased, "calomel and purgatives are prescribed, such cases become greatly aggravated both as to time and severity", Pyrosis is often, however, the forerunuer of an incurable disease, namely, the fungoid disease of the stomach, of which Dr. S. has published some cases in the Medico-Chirurgical Transactions of London, vol. xiv.

Monthly Journal, June, 1847, *p.* 912.

61.—*Observations on Vomiting.*—By Dr. E. Seymour, F.R.S.—In constant vomiting, chiefly in females, "after much distress, produced suddenly or after a very trivial injury, such cases being purely dependent on the nerves of the stomach, which sympathize with the nervous distress in other parts, a cure is easily made, Dr. S. says, by an effervescing draught, with from three to eight minims of laudanum given every six hours. The following is his formula: Carbonate of ammonia a scruple; water an ounce and a half; syrup a drachm; fresh lemon juice half an ounce: draught to be taken every 4 hours. The following draught, according to our author, answers the same purpose:—Sulphate of magnesia a scruple; carbonate of magnesia 10 grains; mint-water 10 drachms; laudanum 3 to 6 minims; this draught to be taken every four hours. The same means, he says, often afford relief for considerable periods of time, even when the vomiting is symptomatic of much more serious disease or injuries. In symptomatic vomiting, a blister or mustard poultices often put an end to the morbid sympathy. From half a grain to a grain of opium made into the smallest size, and as fresh as can be procured, is often successful where all has failed. He has seen equal parts of milk and lime-water succeed where everything else has been tried in vain. In hysterical vomiting, he gives his testimony to the value of creasote, the dose being one or two minims thrice dally. Among other means of checking vomiting, he mentions the successful use of savoury meat,—the jelly of meat taken in very small quantity regularly thrice a day. Against the vomiting of phthisis he recommends four grains of the extract of conium, to be taken twice or thrice a day, followed by this draught:—Lime-water one ounce; cinnamon-water half-an-ounce; syrnp a drachm. Our author affirms that vomiting occurring almost always after cough in phthisis at an early period, marks a severe and rapid form of it; and at a late period that large collections of matter are locked up in the lungs. In the vomiting attending what was formerly termed the iliac passion in a young woman, after the case had become hopeless, he succeeded by administering two grains of calomel, made up with a grain of the soft and recent extract of opium; and when the endeavour to vomit returned, by forcing the patient to swallow half a bottle of soda-water in a state of effervescence; "the expansibility of the gas, and the downward impression in swallowing, had the desired effect." After three successive doses in this manner, the case which Dr. Warren had given up for lost became manageable. Such cases as this, marked by feculent vomiting, he regards as the idiopathic iliac passion, being plainly unconnected either with hernia or intus-susception.

[In the vomiting of Asiatic cholera, one of the best remedies consisted of a scruple of Epsom salts, with five grains of magnesia, and two or three minims of laudanum in a table-spoonful of water every three or four hours, or oftener.]

Monthly Journal, June 1847, *p.* 913.

62.—OBSERVATIONS ON CONSTIPATION.

By Dr. Robert Dick.

[There is a form of constipation which occurs in young persons, and is the result of dryness and solidification of the fæcal matters from active absorption in the small intestines. With reference to the treatment of this affection, Dr. Dick observes :—]

The first means is, attention to diet, by which alone, in the outset, we ought to seek the cure of the disorder. The food should be pultaceous and herbaceous. A porridge, morning and evening, or at least once a day, of barley and oatmeal, will often be sufficient to regulate the bowels. Turnips, greens, potatoes, should be freely used at dinner, as well as salad, celery, &c. Bread should be sparingly used, and what is taken of it should be brown or rye. Apples, pears, prunes, grapes, raisins, strawberries, gooseberries, raspberries, cherries, should be used with little restraint, and lemonade or cider may be drank.

Such a system of diet failing to remove the affection, the next thing to be tried (*in addition* to the above diet, which should be persevered in) is injections. A simple one of tepid water, of considerable volume, should be first employed, every morning or alternate morning, after breakfast. If this is insufficient, then a medicated one should be had recourse to, consisting of gruel, with olive or castor oil, or turpentine; or infusion of senna, &c. As a too great spissitude of the fæcal mass is the evil to be contended with, and as the colon is the part where the accumulation principally occurs, so ought the remedy to be as local as possible. The giving of aperients by the mouth for a simple and very local affection, confined to the opposite extremity of the intestinal tube, besides being a circuitous measure, is, moreover, attended with inconveniences and disadvantages. In order to relieve the colon, the secretions of the whole upper part of the intestinal tube are, by the method referred to, artificially augumented, and the liver, jejunum, ileum, &c. are thus insidiously trained not to act efficiently, unless under the influence of purgatives. Young persons are thus unwittingly ensnared into a permanent dependence on medicines during life.

If, however, neither a chosen diet nor enemata are sufficient, and some aperient appears to be indispensable, we ought to select one, which, leaving the upper bowels unaffected, acts only or chiefly on the colon, the seat of derangement. Aloes, combined with myrrh or with galbanum, sulphur, &c., fulfil this object. Castor or olive oil are, perhaps. the next best recourse.

The constipation of youth, if not mismanaged, generally ceases spontaneously at from the twentieth to the twenty-sixth year. It is, however, often mismanaged by young persons themselves, their friends, or medical attendants. Chronic costiveness is established, with all the disturbances to chymification and chylification occasioned by the use of purgatives, even when most judiciously selected and most moderately used; and with those alternations, now of what we might name vascular collapse, now of plethora, according as purgatives are employed too energetically, or, on the other hand, not with *sufficient* freedom and frequency, *after* their use has been unfortunately established.

We have met with remarkable idiosyncrasies in patients suffering from costiveness, and requiring purgatives. It is, also, singular and important to observe with what rapidity some persons are debilitated by purgatives; how well others bear them; what a slight dose suits one individual; how large a dose is required by another. This patient is freely purged by a teaspoonful of castor oil; that one is only sent to stool by mercury, gamboge, or croton oil. Of those by whom the writer is at present consulted, there are five or six, whose only laxative is a cigar.

Sulphuro-saline waters, as those of Aix-la-Chapelle and of Vichy, and saline waters, as of Püllna and Seidlitz, are useful in costiveness, and involve fewer risks of future ill consequences than most other means.

The time or times of the day at which purgative medicine should be taken is a matter of no small importance to those seeking not to fall into a *habit* of using such medicine, and to confine the quantity of laxative as rigorously as possible to that merely which is required. We should therefore aim at imitating as nearly as possible the action of Nature. Now it is during meals, and probably for from one to two hours subsequent to these, that the biliary, pancreatic, and mucous secretions, as well as the secretion or formation of hydrochloric acid, specially take place. Purgatives, then, ought, perhaps, to be given, not once, but several times in the twenty-four hours—namely, immediately before, or during, or soon after. the principal meals. They would thus co-operate in time and action with the natural secretions, and with the more active periods of the peristaltic movements. And this leads me to notice one laxative, which may be used conveniently as a condiment in soup, &c., in place of common salt. I refer to the phosphate of soda, by which children may be unconsciously beguiled into the taking of purgatives.

Lancet, June 5, 1847, *p.* 585.

63.—*On the Treatment of Diarrhœa.*—By Dr. ROBERT DICK.—Diarrhœa has been, by some writers, divided into a variety of species, which, whether nosologically correct or not, is not necessary practically, and as regards treatment. The simplest general division of diarrhœa would, it appears to the writer, be into *subjective* and *objective:* that which arises from states of the stomach, liver, pancreas, or intestines; or else from certain qualities in the ingesta which are brought into contact with these parts or organs. Strictly speaking, however, all kinds of diarrhœa are subjective, primarily or ultimately.

The first and simplest kind of diarrhœa, named usually crapulosa, is that which merely results from an inordinate meal—it may be of articles of food unobjectionable in themselves, or else of aliment injudiciously or unseasonably used, such as unripe fruit, stale fish, &c. Here the diarrhœa is not to be considered the disease, but rather the cause or causes producing it, of which it is at once the effect and the remedy. Diarrhœa of this species and origin is to be permitted, if not even encouraged; certainly not to be checked, unless it ends in tenesmus, with stools purely mucous, and devoid both of fæculent matter and undigested aliment. Then, and then only, we must step in with chalk mixture, or with opiate pills, powders, draughts, or suppositories.

The second and next most usual form of diarrhœa is what is called bilious. Some writers have been guilty of what appears to the writer to be the paradox of denying, or at least doubting, the existence of such a species, and even the late Dr. Abercrombie abets this view. A greater authority than even he, however,—Andral, (besides others,) adopts a directly contrary opinion, and regards bilious diarrhœa as not only possible, but frequent. Dr. Prout alleges, that in some diseases the biliary secretion is strongly acid. In other cases it is equally acrid; and not rarely this chemical change in the secretion is accompanied with a notable augmentation of its quantity, so that two causes—namely, morbid quality and quantity, co-operate in producing preternatural peristalsis of the bowels and bilious discharges, accompanied with what may be called *ardor fæcium.*

Diarrhœa of this kind is also scarcely, if at all, to be interfered with. Astringents would be madness; purgatives are unnecessary. Diluents, however, to protect the mucous membrane and dilute the acrid bile; anodynes, such as tincture of hyoscyamus, to relieve spasm or griping; warm fomentations and opiate epithems to the abdomen: these, and some other like means, will ease the sufferer, and ward off fever. If, however, there is much tumefaction and growing tenderness in the hepatic region, no time must be lost; but cupping, leeches, even blisters and phlebotomy, must, singly or successively, be employed. If febrile excitement succeeds the diarrhœa, we must give liquor ammoniæ acetatis, ipecacuan wine, or even the potassio-tartrate of antimony.

Pancreatic diarrhœa naturally follows bilious. In the few cases of it which have been noted, and were reported, and verified by a post-mortem examination, there was deep-seated pain, during life, behind the pylorus, with mucous vomitings and "spumous stools." The treatment is similar with that of bilious diarrhœa. In both, if there be griping or spasm in the abdomen, copious imbibition of a decoction of rice, or a tisane of gum-arabic, or an *ad libitum* use of the almond or acacia mixture, is to be permitted or enjoined the patient.

What may be called catarrhal diarrhœa is the next form; or we may name it gastro-enteric influenza. It is, in short, an insidious kind of sub-inflammation of the small intestines, attended with no inconsiderable debility, fever, and, for some time at least, with a pretty copious muco-serous discharge. By this discharge the fæcal contents of the bowels are loosened and come away, in diarrhœa, at the beginning of the disease: this in no long time ceases, but the debility and fever rather increase, and some tenderness and fulness begin to be experienced in the abdomen, especially on pressure being applied.

In this form, we must have recourse to camphor-mixture, musk-mixture, liquor ammoniæ acetatis, liquor ammoniæ sesquicarbonatis, with vinum ipecacuanæ, ammoniacum-mixture, &c. To each of these we may add, infusion or tincture of hop, or the wine of opium, or half of a grain or quarter of a grain doses of the hydrochlorate of morphia. Warm diluents, such as tea, are also to be freely used; and in the aged or feeble, wine and tonics must be prescribed so soon as the pulse and the dryness and heat of skin subside.

Diarrhœa of a purulent character, and accompanied or caused by ulceration of the glands and follicles of the small intestines, must be treated as dysentery. In France and Germany, ipecacuana is much used and much praised in such circumstances. The following formula of Spielmann is reported as highly successful:—Ipecacuanæ, two drachms; aquæ, fourteen ounces. This is boiled, and two ounces of a gum-syrup is added to it. This, then, forms, as I understand, three quantities, each of which is to be administered in three doses, at three hours of interval between each dose. In France they use a "julep," made up somewhat similarly, and flavoured with the syrup of lemons.

Helvetius, in giving a formula for an ipecacuana decoction, very justly directs, that on the first day it should be given in such doses as to cause vomiting. Many cases, both of diarrhœa and dysentery, are caused by interruption (from chill, &c.) of the transpiratory function of the skin. Almost all cases, whether of this origin or not, are accompanied with a remiss action and dry and heated state of that integument; and all of them are greatly relieved by that dry and heated state being removed, and by the insensible perspiration being even stimulated till it becomes sensible; for thereby increased action is transferred from the mucous to the cutaneous membrane —from an internal to an external part—from a part in a state of irritation to one healthy—from a part whose derangements are more critical to one whose derangements are less so.

When diarrhœa is from the first of a purely passive character, (without febrile excitement, quickened pulse, dry skin, thirst, &c.,) or when it becomes so, (having reached its chronic stage,) we may, after a little time, and if it does not tend spontaneously to disappear, check it by astringents. For this purpose, tannin, rhatany, catechu, kino, alum, tormentil, pomegranate. may severally be employed. If there are acid eructations, lime-water and the chalk-mixture may be used, separately or combined with any of the above. If there is passive diarrhœa, with abdominal pain, (depending on tenesmus, not only in the rectum, but along the intestines,) but without acceleration of pulse, &c., then a dose of morphia may be prudently hazarded, by which the disease will sometimes be at once removed.

Lancet, July 3, 1847, *p.* 11.

64.—*Treatment of Tœnia.*—By M. RAYER.—[A woman was admitted into La Charité, having had symptoms of tapeworm for many years.]

The characters of the worm having been well ascertained, in the exhibition of a dose of castor oil, M. Rayer prescribed seventy-two drops of the ethereal oil of male fern, to be made up into twelve pills, six of which were taken in the morning and six in the evening: two hours after the exhibition of the last pill ℥jss. of castor oil was given to the patient, who expelled in numerous fragments sixty-six centimètres of tænia. The accidents have since completely ceased, and no return of the parasite in the motions has been noticed.

M. Rayer prefers the oil of fern to the decoction of the fresh root of wild grenadier, which expels, it is true, with almost perfect certainty, the tænia, but produces symptoms resembling those resulting from the absorption of poisonous substances of an irritating nature.

Medical Times, June 12, 1847, *p.* 310.

65.—*Prussian Blue, for Ascarides of the Rectum.*—A correspondent to the American Journal of Medical Sciences, who does not give his name, as he is not now engaged in the practice of medicine, invites the attention of the medical profession "to the use of the ferri cyanuretum, or prussian blue of commerce, in the treatment of ascarides in the rectum.

"From present observations," he writes, "I am disposed to believe that upon a fair trial it will be found more effective in the treatment of the *inveterate* cases of the disease, than all other remedies."

"Commence with five grains of the prussiate rubbed up in two ounces of rain water or mucilage of gum arabic, (the pure water is preferable, except in cases where much irritation of the mucous membrane exists); throw this into the rectum, and retain it until the next regular defecation. Repeat this daily, gradually increasing the quantity of the prussiate until perfect and permanent relief is afforded. I believe the greatest relief will be experienced after using it even once or twice."

Medical Gazette, July 9, 1847, *p.* 78.

66.—NOTES ON DIET.

By Dr. Aldridge, M.R.I A., &c., Dublin.

1st. The daily food of an adult must contain elements equal to the daily waste which he undergoes; the food of the young must contain elements equal to the waste *plus* the surplus growth; and, in both cases, these elements must be ready combined in the proportions necessary for building up the various tissues.

2nd. This food is most easily obtained by combining, in proper proportions, flesh or seeds, for the supply of the nitrogenous elements of waste, with succulent stems, roots, or leaves, for the supply of the inorganic elements of waste.

3rd. The bulk of this food should be adapted to the capacity of the digestive organs.

4th. The essential elements of food should ordinarily be administered in a form as nearly solid as is consistent with its being agreeable to the taste, leaving it to the instinct of the individual to gratify the demands of thirst.

In the examination of particular kinds of food, he find that seeds and flesh are usually deficient in sulphur and the alkalies. Thus, in adults of ten stone weight, the loss of sulphur, *per diem*, is about twenty grains, and of potash and soda about eighty-four grains. The quantity of wheaten flour requisite for supplying the waste of nitrogen and all the other elements, contains, however, but seventeen grains of sulphur, and forty-three grains of the alkalies. In a similar manner the weight of peas, in other respects sufficient for supplying the daily loss by waste, contains only eleven grains of sulphur and fifty-five of alkalies. Dr. Aldridge considers that it is this deficiency of mineral ingredients in flesh and seeds which occasions scurvy. The herbaceous parts of vegetables, on the contrary, while deficient in nitrogen, abound in mineral elements, and thus he accounts for their prophylactic and curative influence in this disease. Again, he shows that growing animals require a much larger quantity of lime than is requisite to form bone-earth, while seeds are very deficient in this element. These are the considerations which lead him to his first and second propositions. The third proposition, the truth of which is self-evident, forbids the use of the herbaceous parts of plants as the sole material of human food. *To this the potato is an exception, containing, in a bulk not too considerable, all the necessary elemeats for the supply of waste.* The fourth proposition is supported by a number of facts, well known to the breeders of cattle.

Dublin Quarterly Journal, August, 1847, *p.* 117.

67.—*On the Composition of Farinaceous Foods.*—Hard's Farinaceous Food has been for many years before the public. It consists of wheat flour slightly baked. It is very carefully prepared, on which account it is much in repute. The poor frequently employ *baked flour* as a substitute.

Densham's Farinaceous Food is composed of three parts of wheat flour and one part of barley meal slightly baked. The barley meal renders this preparation slightly laxative.

Ervalenta is the meal of the lentil *(Ervum lens)*. It is used with treacle, to counteract habitual constipation.

English Arrow Root is potato starch.

The Prince of Wales's Food is potato starch.

Bright's Custard Powder is a preparation of potato starch.

Gardiner's Alimentary Preparation has recently been introduced as a "production prepared after the instructions of the celebrated Professor Liebig, with a due proportion of nitrogenous matter indispensably requisite for nourishment." It is rice meal very finely ground.

Pharmaceutical Journal, Dec., 1846, *p.* 273.

68.—*On the Use of Nitrate of Silver in Obstinate Diarrhœa and Dysentery.*—By Thomas Aickin, Esq.—Boudin, physician to the Military Hospital at Marseilles, treated fifty cases of typhoid fever (dothin enteritis), in most of which severe diarrhœa was the prominent feature, with the nitrate of silver, thus—When the lower portion of the intestinal tract was presumed to be the seat of ulceration, enemata, containing from one to three grains, dissolved in distilled water, were administered. In most cases one enema sufficed, the symptoms undergoing speedy amelioration. In other cases the remedy was given by the mouth in half-grain doses every half-hour, formed into pills with gum, tragacanth, or starch, until from two to four grains were thus taken. In some instances these two modes of treatment were combined: the results were that only two of the fifty cases succumbed. Examination showed "many ulcers" on the mucous membrane in a state of incipient cicatrization—"*en voie de cicatrisation.*" There was evidence of the solution administered per rectum having passed the ileo-cœcal valve, and producing effects on the lower portion of the ileum precisely similar to those resulting from its action on the surface of the colon. Boudin's communication appears to be well worthy of perusal. It was published in the *Gazette Médicale de Paris*, 1836, No. 51.

Kalt confirms Boudin's statement, having treated twenty-two cases of dothin enteritis with the nitrate of silver. Of these one died. He gave it in mixture (grs. ii. to vi. in decoct., salep. oz. vi.), a tablespoonful of which was taken every half hour or hour according to circumstances.—*Organ f. a. ges Heilk:* Bonn, 1840.

Hirsch of Königsberg, found the nitrate of silver to succeed in obstinate cases of diarrhœa on the failure of ordinary remedies. It proved specially useful in the diarrhœa of newly-weaned infants. In "the advanced stage of such cases, when emaciation was extreme, the dejections being frequent, fœtid, and consisting of a variously-coloured, sometimes greenish, or bloody mucus, and wanting altogether the fœcal character. When aphthous ulceration pervaded the mouth, and when prostration was extreme, the action of the nitrate was brilliant." He gave it to children thus:—

℞. Argent. nitrat. crystall. gr. $\frac{1}{4}$.; aquæ distill. ℥ij.; gum mimosæ, ℈ij.; Sach. albi, ʒij. M. Ft. mist.

A teaspoonful of this mixture was given every two hours, and an enema, containing a quarter-grain of the salt with mucilage and a little opium, was administered. The good effects of this treatment were occasionally visible in a few hours, sometimes not until the second day. He pronounces it a specific in the diarrhœa of infants. He found it almost equally efficacious in severe forms of diarrhœa and dysentery occurring in adults. He administered it to the latter in pills in doses varying from one-twelfth to one-twentieth of a grain every two hours. For this purpose he recommends liquorice powder as preferable to the vegetable extracts which effect its decomposition. He also gave enemata, containing half a grain or a grain, with mucilage and opium.—*Hufeland's Journal der Pract. Heilk:* Berlin, 1840, No. 4.

Canstatt extols the nitrate of silver as prescribed by Hirsch in the diarrhœa ablactatorum.—*Specielle Pathologie.*

Since I became acquainted with Hirsch's observations, opportunity presented for testing the powers of the nitrate of silver in a severe case of diarrhœa occurring in a child of a year old. Vomiting and purging set in, and continued with almost unabated intensity for five days. The stomach at length retained fluids in small quantities, but the purging continued. Chalk mixture, kino, opium, and acetate of lead, were tried, and all, with the exception of the last, seemed to increase the irritation. The dejections were frequent, greenish, sometimes bloody, and very fœtid. On the sixth day prostration was very great, there was a tendency to stupor, and quantities of greenish mucus were voided. Under these circumstances I gave the mixture as prescribed by Hirsch. The first dose seemed to increase the discharges; however, in about six hours, the character of the dejections were improved, they became fœculent, and every symptom underwent a corresponding improvement.

Dublin Medical Press, Sept. 29, 1847, *p.* 193.

URINARY ORGANS.

69.—ON ALBUMINURIA.

By Dr. G. O. Rees, F.R.S., Assistant Physician to Guy's Hospital.

This disease may be described in its humoral relations as a condition characterized by a discharge of the serum of blood with the urine, such discharge not necessarily being connected with an escape of red particles, and dependent on congestive or graver forms of disease in the kidney. As the degeneration of the kidney proceeds, changes occur in the state of the blood, which is not only impoverished by the drain of albumen into the urine, but is found to contain large quantities of urea, as a constituent, owing, apparently, to the difficulty experienced in effecting the excretion of this proximate animal element from the circulation as occurs in health. This is, then, a general sketch of the humoral pathology of albuminuria. I shall next notice, in like manner, the phenomena observed in the solids.

In early cases of albuminuria, which have terminated fatally, by complication of important organs, the state of the kidney, which has led to the excretion of albumen in the urine, has been shown to be one of congestion. The subsequent phases of the disease have given evidence, on post-mortem examination, that the kidneys become eventually infiltrated by a white deposit, which in many advanced cases appears eventually to lead to contraction of the organ.

Now it scarcely ever happens that death occurs in this disease, but that the brain, heart, and not unfrequently the lungs, are found participating immediately in the production of death. In the train of causation, however, it appears now pretty well established, that the kidney is the first, the principal, and the necessary organ to the production of the phenomena of this dangerous malady, and that the affections of other organs are to be regarded either as concomitants or consequences of the degeneration of kidney, and the subsequent deterioration of the circulating blood.

The uriniferous tubules, which assist in forming the excretory duct of the kidney, are completely surrounded by a venus plexus, which forms a portal system, analogous to that of the liver, through which all the blood returned from the Malpighian body, must circulate before it can find entrance into the renal or emulgent vein.

The vessels of the Malpighian bodies are extremely delicate, and apt, therefore, to rupture, or to allow exudation through their coats; and congestive disease of the kidney, caused either by exposure, cold, or suppressed perspirations, would appear easily thus to effect the passage of the serum or liquor sanguinis into the urine. Now, from the arrangement of the portal system of veins above alluded to, you will perceive that a cause for congestion of the Malpighian bodies may exist either in the enlargement of the uniniferous tubes, or in the presence of any morbid deposit immediately around or within the plexus, because in both cases the plexus will be pressed upon, and the passage of blood from the Malpighian bodies to the renal vein will be interfered with. The nature and position of this deposit have lately been described by Dr. Johnson as fatty matter, existing in excessive proportion in the epithelium lining the uriniferous tubes. According to this view, the tubes become dilated by this excessive secretion of fat, and thus, pressing upon the portal plexus of veins, cause obstruction and congestion in the Malpighian bodies, and consequent exudation of the serous fluid into the uriniferous tubes.

Now whether this obstruction be caused by a deposit of fatty matter in the epithelium lining the tubes, or by the deposit of an albuminous material in any part of the secreting portion of the kidney, the drain of albumen from the blood may be equally well produced, and I am anxious to impress this upon your minds, for, whether the late views which have been propounded in relation to the existence of large quantities of fat in kidneys affected by the white mottling be correct or not, we must not forget that obstructed circulation through the kidney is still to be regarded as the immediate cause of albuminous urine, and therefore all that has been done for the pathology of the disease, in regard to the fluids, remains unaffected.

We observe here that the diseased kidney contained a much larger quantity of fatty matter than the healthy organ, notwithstanding that its solid matters, taken together, weighed less in the hundred parts. But let us now examine this question in relation to the solids only, which is the correct way of regarding it, and we shall perceive that when compared with morbid growths in general, we have not much fat present in this diseased kidney; that is to say, that if the abnormal deposit were composed of the material which has been found constituting tubercle in the abdomen, we might have present quite as much fat as this kidney contains. Thus, tubercle in the abdomen has been found to contain 25·4 fatty matter in every 106·18 of its solids; scirrhus, hard as it is, has been found to contain as much as 8·05 of fatty matter in 75·2 of its solid matters. This analysis, therefore, so far as the chemical evidence goes, scarcely carries out the view of fatty regeneration; and if to this we add the physical characters of the deposit, as it can be occasionally examined by the touch, we shall, I think, be inclined to believe it allied rather to scirrhous, or tubercular matter, containing fat as a constituent, than as fatty matter alone. As regards microscopic evidence in determining whether a mass be composed of fat or not, it can do little more than determine the character of the surface; for even with the naked eye, and with large masses, we are aware how difficult it is to form an opinion on such a point as this, if we are not allowed to assist our judgment by other senses, and more especially by the sense of touch. It is difficult to believe, indeed, that this disease can consist of a true fatty degeneration, were it only from our never having yet seen a kidney approaching to the condition of the liver when it assumes the complete fatty character, notwithstanding that the kidney has been now carefully examined for many years.

[Albumen may also be found in the urine during the last hours of life, from a tendency to general and passive effusion of serum, unconnected with disease of the kidney; and possibly also from any great obstruction to the circulation. Dr. Rees contradicts the notion that salivation tends to produce albuminous urine. Every one must have observed the anæmiated appearance, the pasty skin, and fulness of features, presented by patients with albuminuria. Dr. Rees has a theory respecting this deficiency of red corpuscles. He says—]

The facts on which this theory is founded are the following:—

1. In health the corpuscle is supplied with nourishment by the chyle.
2. The chyle is of lower specific gravity than the liquor sanguinis in which the corpuscles float.
3. In the early stages of morbus Brightii the specific gravity of the liquor sanguinis is greatly diminished.

Now in red blood of every kind the corpuscles float in a liquor which is of the same density as the fluid contained within them. This is a necessary result of the physical law of endosmosis, because the blood corpuscle is a membranous vesicle, and if its contained liquor were by any chance to become for a moment either specifically lighter or heavier than the fluid in which the vesicles floated, endosmodic currents would immediately be set in motion through the membrane, and the result of such changes would be the eventual acquirement of a condition of stasis in which the fluid within and the fluid without the corpuscle would be found of the same specific gravity. Now the liquor sanguinis in which the corpuscles float is of much higher specific gravity than the chyle, and when therefore that fluid comes in contact with the blood-corpuscles as it enters the venous system, it meets with these vesicles, which contain a fluid of higher specific gravity than itself, and consequently a considerable quantity of this lighter fluid passes through the coats of the vesicle. This change, which appears necessary to the maintenance of the healthy condition of the blood-corpuscle (inasmuch as it is the manner in which iron enters to assist in the formation of hæmatosine,) cannot occur to its normal extent if the specific gravity of the liquor sanguinis be lessened so as to approach that of the chyle, because in such case there will be very little ferruginous matter passing into the corpuscle, and scarcely any at all if the liquor sanguinis is so degenerated as to be below the density of the chyle; for we must remember that, though in endosmosis there is always a reciprocal change, which causes the fluids placed on either side of the membrane to pass simultaneously, still the heavier passes to the lighter in a much less proportion. This is easily seen under the microscope. When thus a fluid of 1010 is added to blood the corpuscles become swollen, whereas the same saline solution strengthened to 1060 or 70 rapidily collapses them. It is thus, then, on the fact of endosmodic change not occurring to its normal extent that, I believe, we may very fairly attribute the deficiency of red corpuscles in albuminuria; these important bodies not receiving their nutrition to the proper extent.

Medical Gazette, July 30, 1847, *p.* 182.

[The treatment of this affection must vary, as Dr. Rees observes, according to the stage of the disease, the history of the patient, and the character, as to acuteness, of the symptoms. In the early stages we must employ antiphlogistic treatment; cupping from the loins, in small quantity, and especially the use of antimonials; but we must avoid mercury. Dr. Rees says farther,]

In the chronic form of albuminuria, the remedy I have generally found most advantageous as a purgative is elaterium, and it is surprising how completely the dyspnœa and misery caused by effusion can sometimes be relieved by the action of this drug, and, moreover, how greatly it seems to assist the power of diaphoretics, and other means directed to that great emunctory, the skin. The use of counter-irritation, in the form of seton or issues, I have great reason strongly to urge upon you in chronic stages of Bright's disease. They occasionally expedite the cure, though it is necessary that the discharge produced should not become excessive; for we may, by neglecting this precaution, add another to the great cause for degeneration of the blood which already exists in the presence of the disease itself.

When the tendency to the inflammatory character appears decreased, and the patient no longer suffers from pain in the loins, and all the active symptoms are abated, I know of no remedy capable of producing such salutary effects as are to be obtained by the administration of iron. The therapeutical action of this drug, in all its forms, is doubtless exerted on the blood, and its beneficial effect produced precisely as it is in anæmia, when arising from other causes than disease of the kidney. It appears to supply material for the formation of the red colouring matter, which we know contains iron, and which becomes deficient during the progress of albuminuria.

I do not believe it matters much what preparation of the metal is administered, so long as we avoid the more insoluble forms. The hydrated oxide, as it exists in the mistura ferri composita, is easily soluble in the stomach, and I find it to answer extremely well in these caases. If the mixture cannot be retained without inconvenience to the patient, some of the more palatable preparations may be tried: the best among these is perhaps the ammonia-citrate of iron given in soda or Seltzer water three or four times in the day, while a mild nutritious diet is allowed during convalescence.

[The elaterium is doubtless a most valuable remedy in such cases, but in our humble opinion, it is not equal to half ounce doses of cream of tartar as recommended by Dr. Williams. We have found that half a drachm of jalap has added considerably to the effects of the latter medicine; but it is still more important to give it *largely diluted* in a tumbler of water. Its effects will thus be considerably increased. Witness, for example, the powerful effects of Harrogate and other saline waters, which are thus powerful, from a small quantity of purgative salts being taken in a large quantity of liquid.]

Medical Gazette, August 13, 1847, *p.* 274.

70.—*On Diabetes.* By Dr. Rees.—[We know that in diabetes sugar exists in the blood; and if we can prove that this principle is formed in the stomach, we shall have little else to do than to study the phenomena of digestion for an explanation of the disease. On this subject Dr. Rees says,]

Dr. Prout holds that during the digestion of starchy vegetable matters there takes place a change or modification in the arrangements of their elements which causes the formation of a low kind of sugar analogous to the diabetic sugar. This, however, is merely a transitory condition in health, and as speedily as it is formed further changes take place, he believes, which destroy this sugar, causing its modification into oleaginous and albuminous products.

It is a matter of doubt, however, whether the saliva rather than the gastric juice be not the agent in bringing about these changes, for it is well ascertained from experiments made by Leuchs and Schwann, that starch by maceration in saliva at a gentle heat is changed into gummy and saccharine matter.

During the germination of seeds, the starch contained in them becomes changed into substances soluble in cold water. It was for some time believed that the starch was immediately converted into sugar and gum; but further inquiry showed that the substance produced during the first part of the process was neither one nor the other of these principles, but a product of a peculiar nature, having properties intermediate between those of starch and sugar: thus it was soluble in water, but was not sweet to the taste. Now it was discovered that in all vegetating seeds there existed a small portion of glutinous matter, which was found to play an important part in these conversions, and by extracting this gluten from seeds we have been able to produce artificially in starch the same changes which go on in the starch of seeds during their vegetation. To this glutinous substance the name of *diastase* has been given, and the intermediate substance it forms, by acting on starch, is called dextrine. It would appear probable, then, that, during the action of the gastric juice on amylaceous or starchy ingesta, we have either dextrine or some substance closely allied to it formed in the stomach, but that the formation of sugar is arrested. It is obvious that we have in health some powerful force acting not only to prevent starch becoming sugar in the stomach, but also to destroy sugar immediately on its admission into that viscus by contact with the gastric juice; for we know that sugar does not get into the blood or urine, when taken in health, in anything approaching to a moderate proportion. Dr. Percy, it is true, succeeded in obtaining sugar from the urine of a healthy dog that had been fed on sugar alone; but then no other aliment was allowed, and enormous quantities of sugar were eaten by the animal. The experiment therefore only goes to shew that the existence of sugar in the blood and urine of diabetics is a consequence to be expected as a matter of course, if the stomach form sugar in large quantities as it does in that disease; and we must by no means suppose that the stomach, unless deranged, as the dog's was by an exclusive diet of sugar, will allow the passage of sugar into the blood and urine. Not only is sugar immediately destroyed by the action going on in the stomach during healthy digestion, but we may even allow sugar to be injected into the veins, and still it cannot be detected in the urine unless the quantity injected be very large indeed.

Now, in diabetes, the derangement of the stomach is such, that not only is sugar, when swallowed, unacted upon as it should be, and destroyed, but we have it produced from every form of starchy food. Mr. M'Gregor, of Glasgow, was the first clearly to show that we could find sugar in the stomachs of diabetics, and thus to prove that we must look to the primæ viæ for the cause of this disease. He obtained the sugar by the use of emetics which the patient swallowed at intervals after taking food, and was thus enabled to prove, not only that starch became converted into sugar in the stomachs of diabetics, but also that animal matters or aliment, *quite free from starch*, became converted into sugar in like manner. This latter fact is one, however, which must be received with caution, and further experiment is necessary.

In considering the humoral pathology of this disease, we must not forget that there is another fluid besides the gastric juice which is acting upon the food during digestion, viz. the saliva; and very important results have been obtained on this fluid in relation to diabetes by M. Mialhe. That gentleman obtained a substance from saliva to which he has given the name of *animal* diastase. This, like the vegetable principle, possesses the property of decomposing starch into dextrine very rapidly, and so completely, that it no longer strikes a blue colour when tested by the addition of iodine. It appears, therefore, that the saliva has an important part to play in the digestion of starchy matters in health, and the diseased action observed in diabetes may, in all probability, be correctly attributed to a deficiency of some principle, either in the saliva or gastric juice, which, in health, corrects the action of the animal diastase, and prevents it producing a further change in the dextrine formed from starch. Whether this moderating power belongs to the gastric juice or not, we cannot at present say, but certain it is, that in health sugar is rapidly destroyed during digestion. Thus, in health, if starch be taken into the stomach, the changes for the formation of sugar go on only so far as the production of dextrine, and there cease, while fatty matter is produced instead of sugar as a final result.

Now the blood appears, according to Dr. Percy, to exert some action on sugar when it is injected into the veins, and I have stated that he, having injected some diabetic sugar into the jugular of a dog, could detect none in the blood after the lapse of an hour and a half. This experiment is, however, directly at variance with experiments recorded by Messrs. Bernard and Barreswill, who consider they have proved that sugar, if injected into the veins, is always excreted as such. The probability is, however, that it is changed, as Dr. Percy has shown, when present only *in small quantity*, as is the case in healthy digestion.

We have, therefore, in health, the means of checking the entrance of sugar into the urine, both by the actions of chymification and sanguification, while in diabetes sugar is formed in such quantity during chymification as to overcome the transforming power present in the blood.

Now sugar getting into the blood, and thence into the urine, materially alters the healthy qualities of those fluids. The serum becomes impregnated with urea as well as sugar, and its proportion of salt is much decreased. The proportion of extractives taken together is much the same as in health; but the weight of the alcoholic extractive is increased, while that of the extractive soluble in water only is decreased proportionally.

The fatty matter, you will observe, is much less than in health, and, if we add the weight of the sugar present to the weight of fat, we get little more than the weight of the fats observed in health.

Now this deficiency of fatty matter in the serum forms an important part of the history of the blood in diabetes, and goes far to prove the correctness of that view which ascribes the existence of diabetes to mal-assimilation of the character I have described, viz. to the formation of *sugar* from the dextrine of the stomach instead of *fat*. This point, however, cannot be regarded as well ascertained, for Simon, in one of his analyses, gives an equal proportion of fat in diabetic blood.

It would appear that the treatment of diabetes, from what I have now told you concerning its pathology, ought more especially to be directed towards improving the condition of the stomach, and, if possible, removing that tendency to the development of sugar on which the whole mischief depends.

We are, however, but mere empirics in our treatment of this disease: we have no principles to guide us in the attainment of the object, and our medicines for alleviation or cure are such as have been derived from experience alone, and with the action of which we are but little acquainted. We do not know how we may endow the stomach with that property which it has lost, and which enabled it in the healthy state to decompose sugar into oleaginous or fatty matters for the purposes of the economy, and how to stop the ordinary action of the animal diastase after it has formed starch into dextrine, and to induce the change of this latter substance (dextrine) into fat, instead of into sugar. But we have still means of alleviating, and, I believe, when we can obtain recent cases, even of curing diabetes.

[Opium, (though in advanced stages of the disease and where there is much drowsiness, it must be cautiously administered) is one of our best remedies; since it determines to the skin, lessens the flow of urine, and also diminishes the amount of solid excreta. It is highly important however to unload the bowels frequently, by a brisk purgative. Dr. Rees proceeds to say:]

When we fail in acting upon the skin by opium, we may sometimes succeed in obtaining our object more immediately by combining it with antimony. A draught composed of 3 drachms of the liquor ammoniæ acetatis, and 20 minims of the vinum antimonii potassio-tartratis, given three times during the day, together with opium in the form of a pill, is an excellent plan for obtaining an action on the skin in early cases. This may afterwards be kept up by baths and frictions, while the antimony and opium may be gradually decreased, and recourse had to stomachic medicines. Among these, magnesia has obtained a high character, and I have seen much benefit from its exhibition in combination with the Dover's powder. The specific gravity of the urine will frequently decrease under its use, and the quantity of sugar lessen considerably. Large doses of ammonia have also been used with good effect in diabetes, but I have seen no reason to consider it equal to magnesia as a remedy. The mineral acids have been frequently used in the course of the disease. I have made use of the hydrochloric acid with very good temporary effect in some cases, and on one occasion observed considerable improvement, in an advanced stage of the disease, from the continued use of the acid in large doses: as much as a drachm of the strong acid was given during the day, diluted in a pint and a half of water. The patient gained flesh very evidently while under this plan of treatment.

As regards diet, though you will do well to restrict your patients in the use of saccharine and amylaceous articles of diet, still you may easily carry this principle too far; and, on the whole I am of opinion, from the cases I have had an opportunity of observing, that the moderate use of starchy aliment is in no way inconsistent with the well-doing of the patient. I have known a patient the subject of long-continued diabetes who improved much and gained flesh considerably while potatoes were allowed her in full quantity at dinner. On the whole, it is well to encourage the consumption of bread, rather than of farinaceous vegetables; not, however, so much with a view of assisting in the cure of the disease, as for the purpose of obtaining a more prominent test from the examination of the urine, as to the progress made by remedies. Thus, if food which produces but little sugar in diabetic urine be administered, we shall more easily obtain an entire exemption from sugar as our remedies proceed in the alleviation of the disease.

I believe that this circumstance has led to the false opinion that abstinence from starchy and saccharine ingesta assists in the cure of diabetes, and to the mischievous practice of tormenting the patient with a purely animal diet. It is important that you should remember that a diet composed of fatty matters tends much to assist in the nutrition and support of the patient during the exhibition of remedies. Butter may be given freely with this view, and it will in most cases be found agreeable to the palate.

The use of small quantities of vegetables, with an ample allowance of bread and meat, may be enjoined; and, if the patient can eat them without feeling a sense of uneasiness afterwards, greens and leguminous vegetables may be preferred, as, from their containing less starch, they tend less to load the urine with sugar. If

I were to prescribe an exact diet for the diabetic patient, which, with but slight modification, according to temperament, idiosyncrasy, and the duration of the disease, might be expected to agree well, I should say that the breakfast should consist of three-quarters of a pint of strong cocoa, with six to ten ounces of bread, and an ample supply of the best fresh butter. Dinner—Three-quarters of a pound of meat, weighed after being dressed, and freed of bone; twelve ounces of bread, four ounces of cabbage, or two of potatoes. Tea may be taken, with bread and butter, as usual, but with little or no sugar. Supper should consist of plain bread and milk.

The excessive appetite observed in diabetics will be best met under this diet by an extra allowance of meat at dinner.

The liquids allowed at dinner must vary according to the state of the patient; wine and brandy diluted with water, being, as a general rule, preferable to malt liquor.

Medical Gazette, Aug. 27, 1847, *p.* 365.

71.—ON THE TREATMENT OF THE DROPSY FOLLOWING SCARLATINA.

By Dr. E. Charlton, Newcastle-on-Tyne.

We have described the dropsy as coming on in two different ways. In the one its invasion was intense and sudden; in twenty-four hours the body was distended with fluid, there was high fever, and a tolerably full, but very rapid pulse, while the urinary secretion was almost entirely suppressed. In such cases free general venesection was found to be the most efficacious remedy, and it could the more easily be employed, as these intense attacks of dropsy usually supervened after the mildest forms of the exanthema, where the patient's strength was quite equal to bear the loss of blood. In illustration of this mode of treatment, we may subjoin a brief extract from the letter of one of our most valued correspondents. "The treatment depended much on the nature of the case. If the anasarca was great, with much oppression of the breathing, high fever, and rapid but tolerably firm pulse, I found one good general bleeding to be followed by the most beneficial effects. This was succeeded by the administration of a mixture of the nitrate of potass, liq. ammon. acet. and tart. antimon., in moderate doses every two hours, with calomel and compound jalap powder at night, and the latter repeated in large doses in the morning.

We ourselves occasionally had recourse to the treatment recommended by Dr. Golding Bird. The patient was kept in bed, wrapped in a large flannel bed-gown, hot baths were given every night, and he took the following mixture every four hours:—

℞. Vin. antimon. potass. tartr. m. x., julep. ammon. acetat. oz. iii., syrup papav. m. x.; with pulv. ipecac. comp. gr. iiss. and pulv. hydrarg. c cretâ gr. v. every evening.

Elaterium and other drastic purgatives were likewise employed with success, as was also croton oil.

In the other form of dropsy, where the swelling came on gradually with but little fever, we had recourse to nearly similar treatment, only that venesection was not required. But sometimes most dangerous head symptoms unexpectedly supervened, or the respiratory organs were severely affected. Nothing was then found more efficacious than the free employment of drastic purgatives. It was surprising to see how well they were borne, and how little debility was induced by the copious evacuations they occasioned. The favourite remedies of this kind were croton oil and elaterium, especially the latter. Whether the fluid had accumulated in the pericardium, the pleura, or the peritoneum, or whether it had invaded the cellular tissue throughout the body, elaterium, in doses of from one-twelfth to one-sixth of a grain every three or four hours, often brought about the most rapid and unlooked-for amendment. We saw one child who had been in the most dangerous condition from dropsical effusion and pneumonia, and who regained his health in three days from taking small and frequently repeated doses of elaterium, squills, and calomel. He was in the most debilitated condition before these remedies were given; but stimulants, chiefly gin and water, were freely administered during the operation of the drastic purgatives, and with the happiest effects.

A correspondent, in the neighbourhood of Newcastle informs us, that one child of five years of age, whose death was hourly expected from effusion of fluid into the thorax and abdomen, was *emptied* in a single night by taking one-twelfth of a grain of elaterium every three hours, and from that time rapidly recovered.

Some of our friends used the iodide of potassium to facilitate convalescence from dropsy, after diuretics, &c., had been freely given. They consider their patients to have derived much benefit from this preparation. Often when patients escaped the perils of the anasarca, they remained pale and leuco-phlegmatic, and seemed as though about to succumb to scrofulous disease. Many did indeed suffer in this way, swellings formed in the joints, or abscesses burst in the neck, and discharged the matter so characteristic of scrofula. Here the preparations of iron were of especial advantage, particularly the citrate and the iodide of that mineral. Lastly, change of air, was, as it ever is, after the exanthemata, peculiarly beneficial in restoring the patient to florid health.

We are not quite sure that diuretics were always useful in the dropsy; they seemed sometimes to increase the already existing congestion and irritation of the kidneys. Leeches applied over the situation of these organs seemed to succeed better.

Where small but numerous abscesses threatened the life of the patient after scarlatina, we ever made it our principal object to support the strength by wine and nourishing diet, and to correct the tendency to scrofulous disease by the administration of the iodide or citrate of iron. It is needless to observe, that, to secure ultimate success, the utmost attention to personal cleanliness, and to due ventilation of the apartment was required.—*An Account of the late Epidemic of Scarlatina in Newcastle and its Neighbourhood.* By

Edward Charlton, M.D., Edin. Newcastle, 1847.—A pamphlet that we recommend to the perusal of every practitioner in our large towns.
Monthly Journal of Medical Science, Sept 1847, *p.* 201.

72.—*Incontinence of Urine in Children.—Eneuresis.*—Incontinence of urine in children has been observed by Dr. Berenguier to have some connexion with intermittent fever, being apparently a symptom of the debility which accompanies the characteristic anæmia of malarious districts. The most appropriate treatment was found to be a combination of copaiba, laudanum, and the protoxide of iron made into pills.—*Journ. für Kinder.*

Belladonna has been also used successfully in this disease by Dr. Moraud in the dose of one-fifth of a grain of the extract taken twice a day, and increased at the end of a week, if no effect be produced. —*Ann. de Thérapeutique.*
Dublin Medical Press, June 9, 1847, *p.* 358.

73.—*What are the Chief Causes of Anasarca?*—By Dr. Laycock, York.—[Dr. Laycock does not agree with the usual explanation of anasarca,—that it is caused by dilatation of the right ventricle, and consequent venous congestion; and in support of his view he says:]

My reasons for this opinion are—first, that dilatation of the right ventricle and great venous congestion often exist without anasarca; you may see that the lips and cheeks are livid, but there is no œdema of the face, no bladders at each under eye-lid. Secondly, anasarca will take place in persons without dilatation of the right ventricle or disease of the heart. Illustrations of this latter statement have occurred to us repeatedly at the dispensary in the persons of chlorotic females, with their puffy eyelids and œdematous feet and ankles. Persons residing in a malarious district are anasarcous. Persons who have lost much blood will be anasarcous: children recovering from scarlet fever will suddenly become anasarcous *a capite ad pedem*, but without dilatation of the right ventricle, and in these the urine is albuminous and the disease is renal dropsy. And you will observe that there is no dilatation of the right ventricle of the heart in our lately deceased patient; it is the left only that is dilated, and that probably in consequence of the atheromatous condition of the aorta, which at one point near its termination in the ventricle rings like bone when struck with the forceps, and is, in fact, ossified. What then is the cause of this distressing and formidable symptom? The illustrations I have mentioned point to it, I think: in chlorosis, in sufferers from ague and malaria, in persons who have lost much blood, and in those with disease of the kidney, there is the common agreement of a deficiency of colouring matter,—of hæmatosin, or in plain terms, of iron in the blood. You have seen how often in cases of chlorosis the anasarca has been removed by the administration of iron. There is also a numerous class of diseases of the digestive organs afflicting principally sedentary persons in whom the complexion is pale and chlorotic, and which is most effectually remedied by chalybeates conjoined with antacids, and very minute doses of mercury, and these may be referred to as illustrating this point. That the waxy pallor of persons suffering from renal disorganization is dependent on a loss or deficiency of colouring matter is now well known; it has been ascertained that in some cases there has been only one-third the normal quantity. How then is it that anasarca results from this defect? I believe in this way. The phenomena of chlorosis and of hæmorrhage shew that the heart's action is enfeebled by this state of the blood; and as the heart is but a higher development of the vascular tube, an analogous change in action may be expected to take place in the capillaries, and thus passive capillary congestion will be established, and this just in proportion to the depravation of the blood. Of course every organ and tissue that is supplied with capillaries will, on this theory, be the seat of œdema in renal dropsy; and this I believe is the case in a greater or less degree.

I think the presence of albumen in the urine may be partly explained in the same way, but only partly. It is well established that several agents will induce so much functional disturbance of the kidneys, that albumen will pass off with the proper secretion. Extensive injury of the skin has this effect, or any very general interruption of the cutaneous secretion, as for example in extensive burns, or if the skin be coated with dextrine or other preparation capable of interrupting transpiration. It is probably in this way that renal disorder and anasarca supervene on scarlet fever. Irritants, as lytta or mercury, will bring on albuminuria, so also congestion from inflammatory action, as in the case in which we had the post-mortem examination. A granular or tubercular deposit would doubtless excite inflammation in the kidneys as well as in the lungs or peritoneum, so that there may be albumen in the urine from various causes,—from cutaneous disorder; from some passing irritation of the kidneys; from acute inflammatory action; from chronic inflammation or congestion consequent on a morbid deposit; or from passive congestion of the capillaries dependent on a want of hæmatosin in the blood.

Medical Gazette, May 14, 1847, *p.* 852.

74.—*What are the Chief Causes of Effusion into the Shut Sacs?*—By Dr. LAYCOCK, York.—[Effusion into shut sacs arises in some degree from the causes which produce anasarca; but there are probably other important ones in operation. Dr. Taylor has shown the frequency of pericarditis in combination with renal disease; and inflammation of the serous membranes generally, so often accompanies or is consequent upon diseased states of the kidneys, that Dr. Laycock thinks the connection of the two may be explained upon general principles. Upon this subject he says,—]

The muscular system with its aponeuroses, tendons, articulations, ligaments, bursæ, synovial membranes, &c., form one grand whole in conjunction with the serous membranes; and the bronchi (excluding the mucous membrane) and the vascular system,—or, at least, the inner and middle coat,—together with the dermis proper and sublying tissue, belong to the same grand division of structure, and are convertible into each other.

In conformity with this view, serous membrane may become cartilage or bone; dermis may become muscular, or contractile tissue, as in the scrotum; bone may be developed in muscles, as, for example, in the heart or deltoid muscle; ligaments may become bony structures. Seeing, then, there is a community of primary tissue in these various structures, we may expect a community of morbid action, and in this way we can explain the action of urea circulating with the blood on the serous sacs, not only in granular degeneration of the kidneys, but also in those functional disorders which are followed by the phenomena of gout and rheumatism, and metastatic inflammation of serous membranes. In all you have an excess of urea in the blood; in gout, and perhaps in rheumatism, or at least, in rheumatic gout, there is urea in the blood from an excessive formation of urea during the transformation of these serous tissues; in structural degeneration of the kidneys there is urea from retention, the excreting function being destroyed. So that the inflammation of the serous sacs and tissues in Bright's disease—and, I may add, the irritation of them—inducing muscular pains, hypertrophy of the heart, (although the heart is affected also by the want of hæmatosine), and inflammatory effusions into the shut sacs, &c., belong to the same great class of diseases as gouty and rheumatic inflammation, and are subject to the same general considerations. You will take care, however, in applying this general principle, to remember the differences as well as the resemblances. Our patient, the compositor, has been subject to repeated attacks of rheumatic gout; that is to say, from time to time either the kidneys have been functionally disordered so that their ordinary excretion of urea was suspended, or else more urea was formed than could be eliminated. An inflammatory affection of the sero-synovial structures of the smaller joints took place from the irritation of the urea (for the "chalk stones" which form in the fingers and toes of gouty persons are urates), but after a while the functional disorder ceased, and then health followed. At last, however, structural disease supervened on the functional, and you have as a consequence a slow poisoning of the blood by urea, but no return to healthy action in the kidneys; then the hæmatosine gradually disappeared, and *pari passu* the waxy pallor and anasarca increased; and finally, the specific inflammatory action supervened, affecting the shut sacs in preference to the kindred tissues of the joints, but with a less degree of intensity and with greater persistency. In this way, then, we explain the hypertrophy of the heart and the effusion into the pleuræ. We cannot say positively that the hypertrophy did not precede the renal disease, but from the history of the case I infer that it did not.

The sleeplessness, delirium, spectral illusions, and irritability of temper displayed and experienced by the patient, are all distressing symptoms, and depend upon the series of morbid changes already specified; if the urinary secretion be totally suppressed, as in ischuria, (a gouty disorder) coma or convulsions ensue, and these not unfrequently terminate the life of persons with renal dropsy. There is also in addition to the circulation of poisoned blood through the brain, the same condition of the cerebral capillaries, as of the capillaries of other organs, and frequently effusion takes place.

Medical Gazette, May 14, 1847, *p.* 853.

75.—*On Sub-Acute Inflammation of the Kidney, and on the Inflammatory Diseases of the Kidney.*—[We would particularly refer the reader to two admirable papers on the above subject by John Simon, Esq., F.R.S., and Dr. George Johnson, published in the last volume of the Medico-Chirurgical Transactions, pp. 141—165. These papers fill about forty pages of that journal, and are occupied chiefly by interesting pathological investigations, which as they cannot easily be abstracted, we are obliged reluctantly to omit in this volume for want of space.]

Medico-Chirurgical Transactions, Vol. xxx., *pp.* 141—165.

TOXICOLOGY.

76.—RESUSCITATION BY GALVANISM, IN A CASE OF POISONING.

By T. P. James, Esq., Assistant Apothecary to the Middlesex Hospital.

[The patient, a female æt. 29, had taken an ounce of laudanum an hour before; the stomach-pump had been applied before she got to the hospital, but the application was again repeated. She was in a state of the deepest insensibility when galvanism was resorted to. Mr. James says,]

When the sponge-directors were applied, for a few minutes no sensible effect was produced, but soon afterwards the muscles of the neck began to quiver, when sensibility appeared gradually to return, and after twenty or thirty minutes the stimulus produced undoubted discomfort, evidenced by shrugging of the shoulders, and attempts to avoid contact with the sponges; but the first marked influence of its effect was the ejection of a large quantity of fluid from the stomach. In another hour she appeared quite lively, answered questions distinctly, and in a moderately loud tone, though in a somewhat peevish manner. The galvanism was occasionally intermitted for a few moments, when she relapsed almost instantaneously, and " dropped off" in the midst of a sentence which she had commenced during the application of the stimulus. The pupils remained unaffected till about two hours had elapsed, when they became somewhat more dilated, and sensible to a strong light. All the symptoms gradually diminished, but it was absolutely necessary to re-apply it at longer intervals until half-past five P.M., when she seemed so far recovered as to allow of her removal to the ward. From the easy diffusibility and quick propagation of the galvanic fluid over the whole system, irritation, capable of exciting action almost *ad libitum*, can be applied to any or even the whole part of the body at one time, and that of a nature void of all the unpleasant results which necessarily follow bastinadoing, cold affusion, searing, the dolichos pruriens, and a whole catalogue of equally brutal resources, which, for the safety of the patient, have necessarily been had recourse to before galvanism was adopted. Dipping the sponges of the directors, on this occasion, in moistened salt, assisted the passage of the current, and increased the conducting power to a striking degree. In ordinary cases, where galvanism is used, the application, if strong, reddens the skin, and even produces some tumefaction, which remains often for hours; but in this instance, although the power was probably three or four times as strong as is generally used, not the slightest discoloration was observable. It should be noticed, that as soon as she was allowed to fall off into a deep sleep, which she was occasionally permitted to do after the extraordinary influence of the battery was fully proved in rousing her instantly from the deepest narcotism to a fretful impatience, the pulse gradually lowered in its power, became slower in its action, and irregular in its movements; but no sooner was this remarkable stimulus laid on again, than the pulse rallied, was regular, fuller, and quicker; and the respirations, previously laboured, slow, and unequal, became more frequent and deeper. The countenance also evidenced, in a striking manner, the singular influence of this agent. When she was admitted, the cheeks were of a leaden hue, and the lips of a tawny colour; but after the expiration of one hour, with the use of the battery, it resumed a somewhat natural tint.

Lancet, June 19, 1847, *p.* 639.

77.—*A Case of Poisoning by Opium.*—By Dr. M. BARRY.—A very interesting case is related by Dr. M. Barry, of an infant aged 9 months, which had been poisoned by 30 drops of laudanum, and was not seen till seven hours afterwards, when in a state of profound coma. From this state it was aroused by the employment of electro-magnetism. At first, when the current ceased for a moment, the child sank into a profound sleep, and there was no marked amendment until the means had been continued for three hours; and four hours and three-quarters had passed before it was thought proper to discontinue their use. The child, however, then recovered without any further head symptoms.—*Dr. West's Report on Midwifery*, 1845-6.

Medical Gazette, May 21, 1847, *p.* 920.

78.—*Poisoning by Godfrey's Cordial, treated by Electro-Magnetism.* —By W. J. Tubbs, Esq.—[Half a teaspoonful of Godfrey's cordial was given to an infant three weeks old; five hours afterwards when Mr. Tubbs was sent for, he found it in a state of complete narcotism. The usual treatment for narcotic poisoning was resorted to with only temporary advantage for eight hours; and then Mr. Tubbs found that the child was sinking, the pupils still contracted, the temperature of the body falling, and the means which had previously aroused it, had now no effect. He then says:]

I sent home for an electro-magnetic battery. Removing the coil, I passed several gentle shocks along the spine and through the cardiac region. These brought on muscular contraction, which was evinced by the child throwing out its legs and hands; by the countenance becoming distorted, and by its uttering a cry. I continued the shocks for about ten minutes. The heart's action was accelerated, and the eyes were kept opened. I administered beef-tea with ammonia, and then enveloped the whole body up to the chin in heated flannels, covered closely with an oil-skin to retain the heat, in which state it remained for many hours. On my next visit, I had the gratification of finding the little patient sucking the breast. It had recovered completely from the effects of the poison.

Medical Gazette, Sept. 17, 1847, *p.* 513.

SURGERY.

FRACTURES.

79.—APPARATUS FOR FRACTURED THIGH.

By G. Bottomley, Esq, Croydon.

[Shortening or deformity very frequently occur after fracture of the femur, under ordinary modes of treatment. Mr. Bottomley's apparatus seems both simple and likely to be efficient. He says:]

The screw power of which I have availed myself has been noticed by Boyer; but his mode of adapting it does not offer sufficient means of extension and counter-extension, and requires the use of tightly-drawn bandages, which are entirely dispensed with by my apparatus. The whole of the fractured limb is exposed to view, and should the slightest contraction be observed, the remedy can be instantly applied by means of the screw, the management of which is as simple as can well be conceived.

The *modus operandi* is as follows:—A belt is secured round the upper part of the chest by braces over the shoulder. A pocket in the belt receives the head of the splint, where it is made fast by a piece of tape. The foot is placed in a well-padded boot, and straps from each side of the boot are fastened to a belt round the lower portion of the thigh, immediately above the patella. The long splint has at the lower end a revolving screw, to which is attached at right angles, a short metal rod, fitted into a brass box, fastened transversely to the sole of the boot, which can thus be moved up and down the splint at pleasure. The splint is secured to the lower portion of the patient's body by a well-padded pelvic strap, and there are one or two other straps, to be used round the leg or not, according to the judgment of the attendant. When once properly applied, the screw must be turned to bring the limb to its proper length by extension, and no bandage to it will, under any circumstances, be required. Having thus established a fixed point at the head of the splint by means of the braces, it will be at once apparent that the apparatus confers the power both of extension and counter-extension, and is, moreover, so completely under the control of the screw, that it may be regulated to the greatest nicety by a mere application of the finger and thumb.

Lancet, July 10, 1847, *p.* 44.

80.—*Splint for Fractured Thigh.*—By F. A. BULLEY, Esq.—[Mr. F. A. Bulley, Surgeon to the Royal Berks Hospital, published in 1841, an account of a splint similar to that of Mr. Bottomley. Mr. Bulley says,—]

I did not publish it, however, as the account of an invention,—being aware that the peculiar mechanism for extension by the endless screw has been employed, although in a different manner, by M. Boyer,—but mainly for the purpose of describing a small splint, which I thought would be useful in preventing the excurvation of the femur, which sometimes follows these accidents. I also suggested the substitution of a padded leather crutch-band, in lieu of a circular band round the chest (as represented in Mr. Bottomley's drawings), which I had previously tried, but found to fail in producing the necessary counter-extension. An account of both these additions, as well as of the original apparatus, was published in the above-mentioned journal for March 13, 1841.

Since that period, I have constantly employed the apparatus in the Royal Berkshire Hospital, and have, moreover, had several similar ones constructed for some medical friends in London and different parts of the country, who approved of this method of treating fractures by extension.

In the year 1846, finding that extension *only* by the foot, in several cases which I had treated in this manner, had appeared to produce a consecutive weakness or looseness of the knee-joint, by the long-continued stretching of its ligaments, I adopted a means of dividing the necessary amount of traction between the foot and the broken femur, by fixing a band round the lower part of the thigh, just above the patella, from which a strap passed to the foot board or shoe, and was there fastened; and thus, on extension being made by the screw, an equal amount of traction was exerted upon the foot and upon the femur, which seemed to prevent the inconvenience in question. This alteration was the subject of a paper read before the Berkshire Pathological Society, and was duly recorded in the Annual Retrospect, in which it is thus mentioned:—

"Mr. F. A. Bulley exhibited an apparatus, which he had lately constructed for the more efficient treatment of fractures of the thigh-bone. The mechanical extensile power of this apparatus, by means of a foot-piece moving on an endless screw, was so arranged that the necessary traction should be equally divided between the foot and the lower end of the fractured bone, because he had found that in many cases he had witnessed, where the extension had been practised wholly by the foot, the knee-joint, from its having been kept for a long time upon the stretch, had remained inflexible and useless long after the bone had been united; which constituted, he thought, a serious objection to this mode of treatment. He, therefore, proposed to remedy these inconveniences by a division of the tractile forces, so that half should be expended upon the thigh-bone itself, and half upon the foot. The peculiar mechanism of the apparatus would ensure these effects."

Medical Times, Sept. 18, 1847, *p.* 601.

81.—*New Splint for Fractures and Dislocations of the Humerus.*—By Robert Foulis, Esq., Edinburgh.—In the treatment of fractures, it is a general principle that the mechanical support applied, of whatever kind it may be, should extend beyond the two extremities of the injured bone, in order to insure perfect immobility of the limb.

Now, in treating fractures of the humerus, this rule does not appear to have been hitherto attended to; for the splints in present use, although they are made to embrace the elbow-joint firmly, inferiorly and superiorly, do not extend farther than the neck of the humerus; thus the combined weight of the arm and splint tend to withdraw the lower portion of the fracture from the upper. True, the arm is supported by a sling, which the patient is strictly enjoined to wear, but this support is necessarily precarious. In the first place, the patient is often tempted to withdraw his arm from it; and secondly, however careful he may be, this is very apt to happen during sleep; hence the surgeon is frequently called upon to treat an un-united fracture of the humerus. Now, to lessen the risk of this evil, and to assist in its removal when it unfortunately occurs, an improved splint has been constructed.

Instead of terminating below the shoulder, the outer half of the splint is extended *over* the shoulder, where a strap is attached, and passed round the body below the opposite axilla. In cases of simple fracture, this will be quite sufficient to keep the arm steady, but in cases of un-united fracture, an additional strap is added, which, passing below the elbow and over the shoulder, can be drawn by means of a buckle to any required degree of tightness. In this way the fractured ends of the bone can be brought into close contact. A simpler form of this splint may be found useful in cases of dislocations of the head of the humerus, or of the scapular end of the clavicle, and also in fractures of the neck of the humerus, and of the acromion process of scapula. In these, only one splint will be required, and instead of being cut as a right angle, so as to fit the exterior of the arm, it may be made straight, and passed round the posterior of the arm; this, as the former, has a strap attached to the end of it, which is also passed round below the opposite axilla. It is unnecessary that it should be made of so firm texture as the former; some light substance, such as Bristol board, rendered firm with cloth pasted on both sides, will suffice; the strap also may be very light; perhaps a single fold of a bandage attached to the end of the splint, and passed round under the opposite axilla, will be quite sufficient. I think a light splint of this kind, for dislocations, would be felt of very little inconvenience by the patient, and would afford very sufficient security against secondary dislocation. Of course, in this case a sling or bandage is essentially necessary, for the splint being straight, and passing around the posterior part of the arm, does not prevent its being stretched out as the first form of splint does.

Lancet, August 28, 1847, *p.* 230.

82.—*On Fracture of the Carpal Extremity of the Radius*—By Professor **Fenger**, Copenhagen. — [The best diagnostic of this injury from mere sprain, is the deformity. M. Fenger says,—]

The straight line extending along the radius and metacarpal bone of the forefinger appears to be broken in two places:—first, closely over the styloid process of the radius; secondly, between the carpus and metacarpus. This line is hereby divided into three parts, of which the superior and inferior portions are parallel, and the centre and shortest one forms an angle with the other two, thus forming a figure something like the letter Z. Of these two angles, the upper one is always present in this fracture, and remains unchanged by any position of the arm. Fracture of the lower extremity of the ulna, extravasation into the articulation, and luxation of the radius from the ulna, constitute the complications which Professor Fenger has met with in cases of fracture of the radius low down. In the greater number of the cases, the author found that the fracture was oblique, beginning on the palmar side of the lower end of the radius, a little above the articulation, and proceeding upwards towards its dorsal aspect, where it terminated from an inch to an inch and a-half above the joint. He believes, however, that the fracture is more often transverse than is generally supposed.

After commenting on the splints and treatment recommended by Dupuytren, Stromeyer, Velpeau, and Blandin, and stating his opinion of their insufficiency in difficult cases, the author proceeds to describe the plan of treatment he has found most successful. He states, that as the deviation occurs in a curve, with its centre upon the fracture, it is desirable to counteract the deformity by extension acting in a direction according to the tangent of that curve. This end he thinks is best attained by acting through the medium of the hand and of the capsular ligament which is attached to the lower end of the radius. The hand is first to be brought into a position of strong flexion, and the forearm is then placed on an oblique plane, with the carpus highest, the hand being permitted to hang freely down the perpendicular end of the plane. The tendons of the extensor muscles are thus brought into a position which enables them to assist in keeping the reduced fragments of the bone in proper relation. Where the deformity requires it, the displaced lower fragment is to be pressed into its position by the thumb of the operator, after sufficient extension has been made, and when the hand is bent on the forearm. The patient is to be kept in bed, but the hand is not confined, the seat of fracture being covered only by an evaporating lotion. Out of the thirty-nine cases under the Professor's care at Frederick's Hospital, he failed but in one in effecting a cure. He has found a similar plan of treatment equally successful in fractures of the radius higher up the arm.

[At the meeting of the Medico-Chirurgical Society, when M. Fenger's paper was read, Mr. Busk remarked that he found it a good plan to keep the arm completely pronated, the hand elevated, and the elbow depressed; and supporting the carpus to allow the fingers only to hang down. Mr. Arnott remarked that this is the injury known as Colles' fracture, and ably described in Dr Smith's late work on Fractures and Dislocations. Mr. Norton Shaw, the translator of Fenger's paper, after alluding to the difficulty in diagnosing the injury, said—]

As it had been remarked by Mr. Busk, that it would be no easy thing to keep patients so long in bed with this fracture, Mr. Shaw thought that a splint, in which the arm could be supported, permitting the hand, at the same time, to hang freely down, or rather, to be fastened down, might be used, and the patient could, under certain restrictions, be allowed greater liberty. To the other objection, that the patient would not be able to sustain the weight of the hand so long a time hanging down, as would be necessary for the consolidation of the fracture, he remarked that this position seemed to him the most natural—at any rate, less constrained than in starch bandages, Dupuytren's splints, &c.; and that the patients, in the numerous trials made by Professor Fenger, had not experienced more difficulty than might reasonably be expected under such circumstances.

Lancet, May 8, 1847, *p.* 487.

AMPUTATIONS.

83.—ON THE AMOUNT AND CAUSES OF THE MORTALITY OF AMPUTATIONS.

By Dr S. Fenwick, Lecturer on Pathological Anatomy, at the Newcastle-on-Tyne School.

[Dr. Fenwick has published an interesting paper on the results of surgical operations, deduced from an examination of a register of operations kept at the Newcastle Infirmary for 17 and a half years; and a comparison of its contents with other published statistics. With reference to amputations of the limbs, we find that the average mortality in civil practice (from British, Continental, and American statictics) is 1 in 3·12; and the average in military practice 1 in 3·23. The total number of amputations, civil and military, reports of which have been collected by Dr. Fenwick, is 4937: the number of deaths 1565; and the average mortality 1 in 3·15. Upon this, Dr. F. observes—]

The assertion that one person out of every three who suffers an amputation perishes, would have been repudiated a few years ago as a libel upon our professional value; and yet such is the rate of mortality observed in nearly 5000 cases.

It is a striking illustration of the necessity of accurate calculations, that we find a celebrated hospital surgeon supposing that only 1 out of 20 died after this operation; whereas the general result of British civil practice, in more than 2000 cases, shows an average mortality of 1 in 4; and how shall we reconcile the returns of military surgery with the boasted success of many of our military authors?

Upon observing how much the average mortality differs in different infirmaries, even in the same country, as from 1 in 14·33 at Liverpool to 1 in 2 in the Edinburgh Infirmary, we might be tempted to suppose, that these returns would enable us to estimate the healthfulness of the hospitals, or the relative skill of their medical officers. Such a supposition, however, will, upon a little reflection, be seen to be incorrect.

Two surgeons may each have six cases of gangrene; one may wait until a line of demarcation has formed in them all, may operate upon three of them, and save but two; the other may amputate the limb in every case, and only three may recover. Now, it will be evident that although the latter has, by his boldness, preserved the life of one more person than his more timid colleague, yet in estimating only the success of the operations, whereas in those of the former the average mortality would be but 1 in 3, that of the latter would amount to 1 in 2. It is, I conceive, partly from this reason, that, in looking over the operations of the Newcastle Infirmary, I have so seldom found the apparent success of any of our most celebrated surgeons commensurate with his reputation; but, on the contrary, have often observed those who have enjoyed the greatest name, number the largest amount of deaths amongst their patients. Again, as it will be afterwards proved, that a vast difference in mortality exists according to the disease for which the operation is performed, and that traumatic amputations are much more fatal than those required for pathological causes, the practice of any hospital may appear peculiarly successful from its situation in an agricultural district, although, if more minutely examined, the result of its operations may be really less favourable than those of another placed in the midst of a mining or manufacturing population. These considerations are of no small importance, as I have known practitioners hesitate to publish reports which exhibited a high state of mortality; and, in more than one instance, may we see very creditable papers on operative surgery, whose merit is lessened by quotations from other works, inserted to exhibit the superior success of the hospital with which the writer is connected. But, although it is highly useful to have an accurate idea of the general results of amputations, we must be careful not to employ such knowledge to purposes to which it cannot properly be applied. We should remember, that in every operation its value to the patient should be alone considered; and the above figures, whilst they show the general success consequent on the labours of the surgeon, cannot be used to estimate the chances of any particular individual who may be placed under his charge. An attempt has been made to sanction other operations, by comparing their results with those of amputations; and, were the reputation of the surgeon the only matter for consideration, no better means could be employed for that purpose; but as it is the value to the patient which is to be estimated, the matter must be viewed in a very different light. Thus, although one out of every four cases of removal either of an ovary or limb may die, the value of the operation will be very different to the persons suffering from the complaints requiring the performance of these operations. We are here to weigh against the dangers of extirpation, a considerable chance of two or three years' existence, and a comparative freedom from pain during the time; whilst, in the other, a speedy death or great suffering is all that can be expected, unless by amputation the affected part be removed.

It is a matter of great importance to ascertain at what time after an operation there is the greatest danger to life, so that especial care may be used to defend our patients from the attacks of disease at that particular period. Many seem to imagine, that, notwithstanding the light that of late years has been thrown upon the causes of death after operations, the shock is chiefly to be dreaded; and, in conversation, usually speak of an amputation as likely to be successful, if the patient have surmounted the first depression of the operation, or of the injury for which the limb was removed.

[But from Dr. Fenwick's observations it would appear that there is great danger of the patient being attacked by disease, until the 21st day, but especially during the second week; thus in the first week after amputation the mortality was 1 in 12·33, and in the second, 1 in 15·69. He gives a table showing the mortality up to the fourteenth week after operation, and then says:]

As the average time required for the recovery of those persons who were dismissed cured, was found to be in the Newcastle Infirmary upwards of seven weeks, it is evident that, after an amputation, a tendency to fatal disease is set up, which, after a certain lapse of time, declines, whether the wound produced by the knife be healed or not; for were this not the case, the amount of deaths would be more equal in the second, third, and fourth weeks, than it appears to be. It is also somewhat remarkable, that although, in the Glasgow Infirmary, 1 out of 16 died in the third week after an amputation, and only 1 in 27·28 in the Newcastle Infirmary, yet that the time of cure in the former was only forty-two days, whilst in the latter it extended to fifty-two days. It is worthy of observation, that, whilst in Glasgow, the mortality in the first week was 1 in 5·79; at Newcastle, it was only 1 in 12·33. This difference, I conceive, arises from the greater proportion of traumatic operations in the practice of the former hospital.

[It is highly interesting and important to know the nature of the affections by which death is caused after amputations; for this purpose Dr. Fenwick consulted the various accounts of post-mortem examinations, and drew up the following table:]

Showing the Number of Deaths caused by different Diseases after Amputation of the Limbs, their Proportion, and the Number of Cases which may be expected to die from each Class of Diseases in every 500 Amputations which may be performed in the Civil Hospitals of Great Britain.

	No. of Deaths.	Proportion to the total number of Deaths.	Proportion in 500 Amputations in British Civil Practice.
Shock, exhaustion, and delirium, ..	23	1 in 6·	27·82
Gangrene of stump,	7	" 19·71	
Secondary hemorrhage,	5	" 34·5	3·89
Tetanus,	4	" 34·5	3·89
Erysipelas,	6	" 23·	80·62
Visceral inflammations,	21	" 6·57	
Diseased viscera,	6	" 23·	
Purulent Deposits,	29	" 4·75	
Phlebitis,	20	" 6·9	
Phlebitis and purulent deposits,	5	" 27·6	
Diarrhœa and hectic,	12	" 11.5	12·07
Bed sores,	1	" 138·	
	138		

Here, then are a number of diseases following amputation, differing both in their nature, in the organs they attack, and in the amount of death they produce. We observe some causing only one fatal result in every 34 cases, whilst another appears to be the means of terminating life in one-fourth of the unfortunate cases of the operation. We before observed, that the operators connected with the largest Hospitals, had to lament a considerable number of their patients carried off by death after amputations; and we now see, by glancing over this table, how little manual dexterity can influence their success.

And, yet, works on operative surgery are daily written, which detail with the greatest accuracy the formation of flaps, and lay down to a hair's breadth the extent of incisions, without mentioning the secondary affections liable to occur after the operation. Huge dictionaries issue from the press, discussing the rival merits of ancient authorities to some trifling improvement in the method of amputating, but forgetting to lay down rules for the prevention or detection of the many dangerous diseases which so often follow its performance. How many hospital surgeons seem to imagine that the necessity for their personal attention to a case of amputation, terminates at the door of the operating theatre, and leave the after treatment to be solely directed by a house surgeon or a dresser! How many content themselves with a hurried inspection of the pulse and tongue of the patient, after an amputation, instead of exploring the chest, or watching for the first indication of phlebitis; and how many young practitioners do we not find, who speak of an amputation as though the interest connected with it ended with the operation, and as though success were certain if the patient surmounted the shock, or be unaffected with hæmorrhage?

These causes of death may be readily classified: thus, 30 out of

138, or 1 in 4·6 died from the shock, in one form or another. In these cases, the death seems to result from the sympathy of the nervous system with the part of the body which is injured, no anatomical alteration of the nervous centres being perceptible on *post-mortem* examination.

I have included under this head, delirium and gangrene of the stump. The former is usually observed as following accidents and operations in persons of intemperate habits; but occasionally I have seen it as a consequence of shock in the case of healthy and temperate individuals, and have observed it to destroy life within one or two days after the operation. Gangrene, if it be not the reappearance of the disease which necessitated the removal of the limb, is, in most cases, produced by want of power in the system, and may, therefore, be appropriately classed as the result of exhaustion. Supposing, then, that these numbers represent the usual amount of death, we should expect that, out of every 500 amputations, upwards of twenty-seven would perish from this class of diseases.

Secondary hemorrhage in civil practice, although it is stated to occur once in every thirteen cases of amputation, is nevertheless an infrequent cause of a fatal termination; only four deaths out of 138 being referrible to it. In military practice it seems more frequent: thus Mr. Alcock estimates its occurrence, according to his own observation, as taking place once in every five amputations, and as causing death in five in 109 cases. I am unable to bring forward any statistical statement of its frequency at the Newcastle Infirmary; but am inclined to imagine that the proportion of one in thirteen, quoted from Dr. M'Hardy, would be about the average of its occurrence; and yet, during the seven years that I lived within the Hospital, no death was caused by it. In the Operation Register, a case is mentioned as having taken place twenty years ago, in which amputation was performed on an old man on account of ulceration of the leg; the arteries were found ossified, and gave way in the application of ligatures; a considerable amount of blood was lost; and although, finally, the femoral artery was secured higher up in the thigh, the patient sank on the third or fourth day after the operation.

We find that twenty-seven had died of visceral inflammations and diseases, or in the proportion of twenty-five in every 500 amputations. We can more readily explain how an attack of erysipelas may take place, than by what means an inflammatory affection of the internal organs occurs after the removal of a limb. Almost every organ has, however, been found diseased after amputation, though chiefly those which contain the largest amount of blood in a state of health, as the lungs and liver. Some persons have believed, that in these visceral inflammations the organs affected had been previously unhealthy, and that the operation had only acted by rousing the latent disease into fatal activity. I have certainly observed some cases which supported this view in a most striking manner; but the large proportion of individuals so affected after operations, must at once overthrow the idea of this being the general cause of their production. Others have attributed them solely to the ordinary exciting causes of inflammation acting upon a habit enfeebled by chronic diseases; but this theory must also fall to the ground, as it will be afterwards shown, that whereas, in amputations from pathological causes at the Newcastle Infirmary, only one died out of every 5·14, one died out of every 3·11 in those performed for accidents. It has been surmised by others, that the depression of the shock is the usual cause of these complaints, by producing a typhoid condition of the system, and that, in proportion to the amount of shock, is the danger of the occurrence of secondary inflammation.

In support of this opinion may be quoted the fact, that traumatic amputations, which are most liable to death from shock, are also most subject to visceral diseases.

It is only within the last few years that any satisfactory explanation has been given of the occurrence of purulent deposits, in different organs of the body, after an accident or operation. The passage of pus into the circulation has, however, been proved to be the general cause of this fatal form of disease; and the further the subject is investigated, the more are we surprised at the frequency with which it takes place after operations.

More than one-third of the whole number of deaths after amputation, seem to have arisen from this cause. I have included purulent deposits and phlebitis under one head, as in the majority of cases the former result from the latter; and often, where the more obvious diseases of the viscera have alone attracted the attention of the pathologist, there is every reason to believe the primary cause of death had been overlooked, from want of due care in the examination. When, however, we reflect upon the disposition of veins to inflammatory action, we need not be surprised that it so frequently follows amputation. We see phlebitis set up idiopathically, we observe it arising from the passage of a catheter, from small scalp wounds, from an issue near a vein, and from many other equally trivial operations; and how can we expect that these vessels will remain unaffected in the inflammatory attacks of the stump, which are so often observed after the removal of a limb? We should likewise remember, that, in taking up the smaller arteries, the accompanying veins must be frequently included in the ligatures, which, of itself, is sufficient to give rise to the disease. Besides, occasionally, ligatures are placed upon the larger veins through carelessness; thus, I have seen a surgeon of great experience tie the femoral vein on account of a little bleeding, which by other means might have been stopped, and urge as an excuse for his conduct, that, notwithstanding what had been written upon the subject of phlebitis, he had often adopted the plan without any unpleasant results.

[The contrast between the small proportion of deaths from secondary exhaustion, hectic, &c., and the large number from inflammatory affections, is remarkable and interesting. It is important to know the period after an amputation at which different diseases are liable to occur.]

The first four days after an amputation, says Dr. Fenwick, may be termed the period of shock, or that in which the danger from primary exhaustion is chiefly to be dreaded; and the number dying in it should always be stated in any report where the real causes of death cannot be ascertained. Although after the fourth day the influence of shock is to be but little dreaded, yet two deaths from gangrene occurred in the next period, one on the fifth and the other on the seventh day, after which no other from the same cause is recorded. If, then, a patient have survived the fourth day, our fear of his death resulting from the exhaustion of the shock, or from delirium, may as a general rule subside, and after the seventh day we need not even dread the secondary effects of the shock in the shape of gangrene of the stump. But after the fourth day a new class of diseases attains a greater prominence than before, and in this class we first observe two deaths from erysipelas.

We observed, that even by the fourth day cases of death from phlebitis and visceral diseases had occurred, but there were only two during the first four days; whereas, after the shock of the accident or operation has subsided, these affections are so rapidly produced, that between the fourth and seventh days no fewer than six deaths are registered as produced by them. From this time they gradually decline in frequency, the next period of seven days showing only eight deaths, and the third week only six. But, if we consider the mortality produced by them in another point of view, we find it is as great in the second as in the first week, and that the surgeon has as great a chance of losing his patient from this class of diseases, after the fourteenth day, as before that time.

[It is necessary to remember that the success of an amputation varies according to the part of the limb at which it is performed, in order that we may judge of the chance of life which any particular patient can be expected to possess. Upon this point Dr. Fenwick observes:]

It is obvious that, however the practice at various hospitals may differ, their returns all agree in displaying a greater mortality after amputations of the lower extremity than after those of the upper.

The removal of a limb at the joint seems much more dangerous than when the bone is divided: thus, we find 8 died out of 10 on whom amputation at the knee-joint was performed; whilst, according to the statement of Malgaigne, in the hospitals of Paris, only 1 died out of 1·81 when the operation took place below the knee, and only 1 in 1·57 when performed above it. Again, after amputations at the shoulder joint, the mortality is greater than after those of the thigh or of the leg, and it is much more than what is observed after the removal of the arm at any other part. We have not sufficient numbers to decide whether it is safer to remove the forearm above the wrist, or at the joint, no death having occurred of 7 operations performed at the latter, and the average mortality of amputations above the joint being only 1 in every 9·52. The only case recorded in these hospitals of removal at the ankle-joint terminated fatally.

The small difference between the mortality following amputations of the leg, and that succeeding those of the thigh, is well worthy of notice; that of the former being 1 in 2·55, that of the latter 1 in 2·31. In some instances, indeed, as at the Liverpool Northern Hospital, and at the Glasgow Infirmary, the advantage has been with the thigh operations.

The conclusion would appear therefore inevitable, that if amputations, in general, greatly decrease in danger the further they are performed from the trunk, there must be some peculiarity in the structure of the parts divided in amputations below the knee, which renders this operation an exception to the general rule. But if we examine the matter more closely, we shall discover the cause of this apparent exception, in the fact that a greater number of more fatal diseases require amputation of the leg than of the thigh. Thus, if we take the results of the operations performed for diseased joints and bones alone, we find a mortality of 1 in 4·91 after amputations above the knee, and only 1 in 10·33 in those performed below it; or, if we compare those required for accidents, it is 1 in 1·55 in the former, and 1 in 1·93 in the latter. Here, then, are evident proofs that the exception is more apparent than real, and it shows us the necessity of caution in drawing conclusions from statements of a general nature.

The amputation below the knee is usually considered an exception to the general maxim, that no more of a limb should be removed than is absolutely necessary, and the part usually selected for its performance has been named the point of election. But while we consider that the mortality after an amputation decreases in proportion to the distance from the trunk at which it is performed, doubts naturally arise in our minds respecting the propriety of unnecessarily removing any portion of the body, more especially as it is not impossible, that some cheap description of artificial leg might be invented for those submitting to the operation above the ankle, which might be equally convenient with that usually worn upon the stump below the knee. But what are the results of these two operations, viz., that below the knee, and that above the ankle?

We have found the average mortality in the former to be 1 in 2·55, whereas in 9 supra-malleolar amputations only 2 of the patients died, or 1 in every 4·5. In addition to this statement, MM. Arnal and Martin, of 97 cases of supra-malleolar amputation, state the number of deaths to have been only 1 in 10. Before, then, the surgeon amputates for a diseased foot or ankle joint, let him fancy himself to be the patient, let him coolly consider the figures just quoted, and calculate the different chances of death to which these two operations would expose himself. And then, if he can believe the greater inconvenience of the lower operation to outweigh its greater comparative safety, let him advise his patient to submit to the removal of the limb at the usual point of election. In the upper extremity, as we before remarked of the lower, the mortality decreases according to the distance at which it is performed from the trunk. Thus, 1 died in 2.14 after amputations at the shoulder joint, 1 in 2.81 after those above the elbow, and 1 in 9.52 after those of the fore-arm. Another fact is also observable in the operations on both extremities, viz., that the decrease in the number of deaths is not in any regular ratio; for had the mortality, after removal of the fore-arm, borne the same proportion to that following amputation of the arm, that the mortality of this latter does to the mortality following the shoulder joint operation, it would have been 1 in 3·68, whereas we find it only one-third of that amount, or 1 in 9·52.

[Still further, we may ascertain to what causes of death each amputation is most liable. Thus:]

Omitting the amputations at the shoulder joint, as too few in number, we see that the danger from shock is greatest after the removal of the thigh; the average mortality in this operation being 1 in 11·6, in that of the leg 1 in 22·4, and in that of the upper extremity 1 in 50, during the first 4 days. The same conclusions may be deduced from the statements of Dr. Lawrie; for, according to Table X., the average mortality from shock, was in the thigh operation 1 in 9·7; no death took place after amputation of the leg of 41 cases, and only 1 in 20 after that of the arm. Mr. Alcock also gives the causes of death in 21 cases, of which 3 died from shock or exhaustion; of these 2 were amputations of the thigh, and the part at which the third suffered the operation is not mentioned.

Gangrene, which does not appear to have produced a fatal result in any amputation of the upper extremity, was the cause of death at the Glasgow Infirmary, of 1 case in every 24·25 of the thigh operation, and of 1 in every 20·5 of the leg.

We might have anticipated that secondary hemorrhage, occurring after amputations of the thigh, would prove peculiarly fatal, both on account of the greater size of the vessels, and also since the means required to restrain it when it occurs, some time after the operation, are attended with greater danger in that part of the body than in others. In accordance with this view, we find by Table X., that 1 in every 24 cases of amputation of the thigh had been lost from this cause, whilst no death had resulted from it in the other operations.

Erysipelas seems more frequently to affect the upper extremity than the lower; thus, according to Table X., the average mortality after amputations of the arm is 1 in 13·33; whilst no deaths had been produced by it after removal of the leg, and only 1 in 97 cases of operations on the thigh. In like manner, according to Dr. M'Hardy, 1 in 67·3 was attacked by erysipelas of the thigh amputations; 1 in 27·5 of the leg; and 1 in 18 after removal of the arm;

whilst none out of 53 had suffered from it after the removal of the forearm.

We might have reasonably supposed, that in proportion to the extent of the body removed, we should have observed the development of internal inflammations; but such does not appear to be the case, as visceral diseases are stated to have been twice as frequent, at the Glasgow Infirmary, after removal of the leg as after that of the thigh; and the loss of the arm has exposed the patient to but little less chance of being affected by them than if he had suffered amputation *of the thigh.*

In its liability to be succeeded by diarrhœa, and by the remaining causes of death, the thigh amputation is especially remarkable.

Monthly Journal, Oct., 1847, *p.* 237.

84.—*On the Question of Amputation in Mortification.*—By Professor Cooper.—I must now direct your attention to some points to be observed in mortification. With respect, first, to amputation, all practical men agree that, in cases of bad mechanical injuries, this is best done early, before mortification begins, or even inflammation comes on. The usefulness of this practice must be obvious; for, if you defer amputation till mortification comes on, you take the patient just when his system is least able to bear the operation; whereas, by prompt action you may anticipate these effects, and give the patient the best chance of recovery.

Another rule is to attend to the line of demarcation. Where mortification arises from internal causes, you would never be justified in amputating until this line is clearly marked, because by the absence of this line the system is shown to be still in that unfavourable state which induced disease in the limb, and, should you operate under these circumstances, you would have the stump attacked; it is therefore a rule in surgery, that where mortification arises from internal causes, you must never amputate till this line is formed. When the line exists you can see that the parts are dead on one side, and that the other exhibits a bright red colour, as if from the presence of arterial blood. You will then endeavour to strengthen the patient with nutritious diet; he will go through the operation better, and the results will be more likely to be favourable. At the same time you should distinctly understand that this rule of waiting for the appearance of the line of demarcation is intended to apply only to mortification from *internal* causes; if we were to act on it in cases of mortification from external injuries, as gun-shot wounds, for instance, the patient would either die before mortification had ceased, or sink into a low state, in which amputation would not be practicable—a state which very rapidly follows these injuries. Now and then the gangrene will go down to the bone, and no operation will be required at all.

Medical Times, Aug. 28, 1847, *p.* 525.

85.—*On the Cause of some Accidents after Amputations.*—By M. Melchoir Robert.—The following is a brief extract from a memoir.

addressed by M. Melchoir Robert to the Academy of Sciences, on the accidents which may follow the section of tendons and their sheaths, more especially in amputation; and on the mechanism of the production of these accidents, and the means of preventing or remedying them. The author's attention was particularly drawn to this matter, from observing the frequently occurring untoward events after amputations near the extremities of limbs, and when, consequently, the greatest number of tendons and tendinous sheaths is cut through. To arrive at an explanation of this circumstance, M. Robert has performed numerous experiments on the dead subject, and on the lower animals. The following is a resumé of the results he has arrived at:—

1. That after amputation and the division of tendons, the latter recede into their sheaths to different heights; this retraction must therefore act in the same manner as the rising of a piston in a pump.

2. This retraction will consequently be attended by the introduction into the sheaths of liquid or air, according to the medium in which the operation is performed.

3. The liquid at the surface of the wound will be sucked in when the limb is extended, and expelled, more or less completely, when it is flexed.

4. It is possible to drive the liquid out again by means of pressure properly applied, or to withdraw it by suction with a syringe.

5. The retraction of the tendon in its sheath, and the imbibition of any liquid or of air, may be prevented by pressure along the course of the sheath whilst the operation is being performed.

6. Lastly, fluid or air may be quite excluded from the sheath, by passing a ligature round the latter.

These phenomena being demonstrated in the dead subject, and in the lower animals, M. Robert concluded the same to take place in the human subject when operated on; and that blood or air, or both, may enter the tendinous sheaths, and which, if not expelled, will light up inflammation, followed by suppuration, or may even favour the occurrence of purulent absorption. And after an operation, the various movements of the limb required by the surgeon in examining it, those excited by the patient, and the traumatic contractions of the muscles, will all cause the tendons to play up and down in their sheaths, and so favour the introduction of air or liquids which are in contact with the cut surface. As practical deductions from his experiments, M. Robert would adduce the following propositions:—

1. That during the operation, compression should be exerted, whenever possible, in the course of the sheaths, above the point where they are to be cut across, in order to close the sheath, and to retain its enclosed tendon in its position on a level with its extremity.

2. After the operation, to pass, by a curved needle, a ligature around the tendon and its sheath, so as to bring its sides in contact, and obliterate the cavity.

3. If the tendon, during the operation, is allowed to escape, and retract itself within its sheath, to withdraw it again, by either forcibly flexing the limb, if the tendon belong to a flexor, or by seizing it with forceps, and then tying it as before directed.

4. If the tendon has so far receded as not to be again recoverable, the sheath alone is to be tied; but before tightening the ligature, any air or liquid should be expelled by compression or suction.

5. Along with the preceding precautions, the operator should guard against extending the limb in his examinations, as also against too strong pressure, both of which, as at the wrist, cause the retraction of the tendons, and favour the introduction of fluids.

6. As soon as the patient complains of acute pains along the course of the tendinous sheaths, methodical pressure should be exerted, or, if possible, suction be attempted from the ends of the sheaths. Perhaps it might be good practice to inject an emollient liquid into them, to be again withdrawn.

M. Robert has made the preceding observations especially respecting the tendinous sheaths of the wrist, fingers, and toes, but believes them also to apply in other cases.

The preceding experiments are interesting, if they lead to no practical results; and they indicate in M. Robert, who is but an interne of the hospitals, a spirit of original research. But the observations are considered of sufficient importance by the French Academy, that a report is ordered to be drawn up on them by three of its very eminent members, MM. Roux, Velpeau, and Serres.

Lancet, Sept. 11, 1847, *p.* 283.

86.—*A New Mode of Bandaging Wounds and Stumps.*—By M. Baudens.—At the séance of the 6th of June, M. Baudens, chief surgeon of the hospital Val-de-Grace, made known, in a short note, a method, which he had lately devised, of bringing together the edges of wounds in order to unite, and which he is now daily employing with success at the hospital. For instance: in order to unite the two flaps of integument, after the operation for removing the foot at the ankle, as practised by him, a bandage is fixed circularly above the stump, and in it are inserted two strong pins, one in front, the other behind, leaving their heads and points free. Around the two ends of the pins thus left exposed a long and thick cotton thread is looped; the threads from both sides are next brought down to the edge of the stump, and crossed over the lips of the wound, which are held together by the fingers of an assistant. The thread, being crossed over to the opposite side, is now passed under the ends of the pin of that side, from which, again, it may be made to recross: by this crossing of the threads of both sides over the wound, a support is given to it similar to that afforded by a bandage. The crossing of the threads may be repeated as often as is deemed necessary; and the course of the threads of opposite sides may be parallel, or across, so as to make a figure of eight. The ends of the ligatures applied to the arteries, being also made fast to the pins, are in no danger of being torn away in removing any applications from the stump, as will sometimes happen with the old plan.

The advantages this plan offers are—the gentle pressure exercised by the thread; the avoidance of impregnation by the discharged matter, which cannot long remain in contact with the end of the stump; the open spaces left between the threads allows of a ready discharge of fluid matters from the wound; and the constant pull upon the circular bandage above the stump tends to draw the flesh towards its extremity, and so to render it conical.

This mode of bringing about the union of parts is, according to M. Baudens, applicable to all kinds of wounds, a suitable support being first contrived for the pins, on which the traction is exerted.

It may be remarked, however, that many surgeons object to a circular bandage being applied just above the stump, at least with any tightness, such as M. Baudens' method would require, on account of the impediment it offers to the circulation in the part, and the consequent tendency it has to produce an œdematous state, and even worse results. Nevertheless, even if the evils of constriction above a stump have not been magnified, the device of M. Baudens is very ingenious, and no doubt will prove very convenient and useful in procuring the adhesion of the opposite lips of wounds in many cases.

Lancet, June 20, 1847, *p.* 675.

ORGANS OF CIRCULATION.

87.—CASE OF LIGATURE OF THE SUBCLAVIAN ARTERY FOR AXILLARY ANEURISM.

By Professor Syme.

[The patient, a gentleman, thirty-four years of age, had an axillary aneurism on the right side of considerable size. Sixteen years previously he had sustained a severe sprain of the shoulder, and had subsequently perceived occasionally a difference of temperature in the hands. About ten months before he was seen by Professor Syme, he began to suffer pain in the little and ring fingers, but did not notice the existence of a tumour, until a still more recent period. Professor Syme tied the subclavian, and his mode of doing so he thus describes:—]

In performing the operation I made an incision along the clavicle, so as to extend over the edges of the sterno-mastoid and trapezius muscles, and another from the centre of this upwards, parallel with the edge of the latter muscle. The dissection was conducted entirely by the knife and forceps. The needle was passed under the artery, with its convexity upwards, and the ligature was tied by the unaided effort of the fingers. It has been advised to pass the needle with its convexity downwards, or towards the clavicle, with a view to protect the vein from injury. But this vessel is not at all in the way, while the cervical nerves are so situated in regard to the artery, as in general to render it nearly, if not quite, impossible to convey the ligature from below upwards. It has also been advised to employ the assistance of some mechanical contrivance for tightening the knot. But I feel persuaded that the thread will always be within reach of the fingers, and may be more safely tied by them simply, than with the intervention of any instrument.

Monthly Journal, Oct., 1847, *p.* 217.

88.—*Case of Aneurism by Anastomosis in the Anterior Naris.*—The patient was a woman, thirty years of age, admitted into Stevens's Hospital under Dr. Wilmot. When ten years of age, after leaping from a height, she was seized with a profuse discharge of blood from the left nostril, which occurred several times for a week, and was then stopped. About four years and a half afterwards a tumour, the size of a pea, was observed on the inside of the left ala nasi. It was attended with pain which extended over the left side of the nose, with a sense of fulness about the side of the head, the tumour increasing so as to attract attention. When admitted into the hospital it was about the size of a small olive, attached to the inner surface of the ala of the left nostril. It was of a dark blue colour, soft, smooth, and equal on its surface; and upon pressing it an obscure pulsation could be felt. The coronal artery of the lip and the lateralis nasi pulsated strongly, and appeared to feed the tumour. She remained in the hospital but a short time, but returned in four months, during which time the tumour had increased in size, and the pulsation was now very evident. It was at first punctured with a cataract needle, and through the punctures a small probe was introduced coated with nitrate of silver. A rapid flow of blood followed each operation, but was stopped by pressure. The caustic was then applied three or four times, and during the intervals astringent lotions and pressure were employed. This produced a temporary reduction of the tumour, which, however, eventually appeared to become larger, and there was, with headache, a throbbing over the left side of the face. She again left the hospital for half a year, when, on her return the tumour had considerably increased, and had assumed a round form, filling the anterior cavity of the left nostril, and extending a little beyond its margin. All the circumjacent arteries were enlarged, the lateralis nasi to the size of a crow quill, and pressure on this and the coronary artery commanded the pulsation in the tumour. It was now resolved to perforate it with the actual cautery. The operation consisted in penetrating the sac in two distinct places with a nail-shaped iron cautery. This was repeated six times, at intervals of fourteen days. After each application the tumour swelled, became painful, and in about three days pus was observed to escape through the openings. At the end of three months she was discharged from the hospital quite well, there being no trace of the tumour, the lateralis nasi artery could not be felt, and the other arteries were restored to their natural size.

Medical Times, Sept. 11, 1847, *p.* 576.

89.—*Sulphate of Quinine in Internal Aneurism.*—It appears that sulphate of quinine has been employed with much success in some Italian hospitals for the relief of aneurism of the aorta and other internal aneurisms. It belongs, in this use of it, to what are termed hyposthenics (subduing action,) and is to be carried as far as the system will bear it. It has, say its Italian supporters, the immense advantage of bringing down the pulse without disturbing its rhythm, of making the buffy coat of the blood disappear, that is, of dissipating the organic condition,—namely, arteritis, on which it depends, and thus of retarding the progress of the aneurismal tumour. The other hyposthenics adapted to the same end according to the same authorities, as by alternation with the sulphate of quinine, are the vegetable and mineral acids, the sulphate of iron, the ergot of rye, the cold ferruginous waters, the arsenious acid, the acetate of lead, and the iodide of potassium.—Monthly Journal, July, 1847.

Provincial Med. and Surg. Journal, August 25, 1847, *p.* 475.

ORGANS OF RESPIRATION.

90.—CASE OF FOREIGN BODY IN THE TRACHEA AT GUY'S HOSPITAL.

By Bransby Coooper, Esq, F.R S., &c.

| A boy thirteen years of age got a pebble into his trachea, and was sent to Guy's Hospital. At first he showed so little uneasiness, and the symptoms of the presence of a foreign body were so ill-defined, that it was determined to wait, keeping the patient perfectly quiet, and having him closely watched. A day or two afterwards it was found that respiration was nearly stopped in the left lung; and after a further lapse of time, the left lung was found free, but respiration was accompanied with a rough sound at the apex of the right lung, and there was dulness on percussion over the same place; and when the patient coughed, the movement of a foreign body was heard. It was then decided that there was a foreign body in the upper branch of the right bronchus, and, we are told,]

It was resolved that the operation of tracheotomy should immediately be performed, in order to allow of the inversion of the patient with comparative safety.

The operation was performed in the usual way by Mr. Bransby Cooper: a free opening was made into the trachea, and four of its rings divided by a bistoury.

During the operation, both before and after the opening had been made in the trachea, the patient coughed violently, and stated that he felt the pebble move, but he thought it was expelled through the opening. A probe was passed into the trachea with a view to feel the pebble, but without any other effect than that of making the patient cough violently. He was now inverted, and struck forcibly on the back, when he said he felt the stone move above the wound in the trachea, and while in this position, during the act of inspiration, the pebble fell through the wound made in the trachea into Mr. Hilton's hand.

Since the operation the boy has been free from any constitutional disturbance; he breathes freely, no air passes through the wound, and he may now be considered quite convalescent.

Medical Gazette, August 13, 1847, *p* 303.

ALIMENTARY CANAL.

91.—CASE OF ENLARGEMENT OF THE LABIAL GLANDS.

By W. R. Wilde, Esq., Surgeon to St. Mark's Hospital.

[This was a curious case of enlargement of the upper lip. The lip had been increasing in size for two years; its progress had been unattended with pain, but he had had some irritation from exposure of the mucous membrane to the air. He had no scrofulous or venereal taint. Mr. Wilde says:—]

Upon examination, I found the lower lip totally unaffected, as well as the extreme angles of the upper; but all the rest of the red border of this lip was immensely thickened, and so much enlarged that, when the mouth was closed, it formed a large, projecting, red mass, not unlike a pair of ripe strawberries, the division between them being caused by the natural central sulcus of the lip. If these projections were allowed to remain unwiped for some time, a number of globules of a clear fluid formed upon the surface of the mucous membrane. If one of these was removed, and the eye was kept steadily fixed upon the surface beneath, another clear drop of fluid was seen to exude from a remarkably small aperture in the mucous membrane. Squeezing the lip between the fingers, if the pressure was continued for some minutes, likewise caused these drops to form like a dew on the surface of the membrane. The membrane itself was rather more vascular than usual; where the drops exuded, it was particularly smooth and polished, but towards the edge of the lip it had become thickened, covered over with adhesive crusts, and cracked in several places. The external surface of the lip was natural.

As the young man was very anxious to be relieved of this deformity, I removed it in the following manner. Assistants having commanded the coronary circulation, by holding the angles of the lip, as in the operation for the removal of cancer of this part, I made an incision, with a small, sharp scalpel, through the mucous membrane, parallel with and about three-eighths of an inch from the edge of the lip, and about two inches and a half in length. By another incision, through the membrane, upon the dental surface of the lip, which was everted for the purpose, I completely included and dissected out the diseased mass, which, during the progress of the operation, I found to consist of a congeries of small globular bodies, nearly transparent, and about the size of advanced trout-spawn. There was scarcely any hæmorrhage during the operation, and any granules of the disease which were cut across, or adhered to the surface of the wound, having been completely removed, the edges of the incision were accurately adjusted, and sewed together by a fine silk ligature, after the manner of the continued suture. Upon shutting the mouth, the deformity was found to have been completely removed, and the edges of the lips met as before the supervention of the disease. A few hours after a smart hæmorrhage occurred from the surface of the wound, but it was checked by the use of tincture of matico, and occasional pressure, which the patient was able to effect for himself.

[The wound healed kindly, and nine months afterwards he had no return of the disease. The mass removed exhibited nothing but hypertrophy of the natural structures, affecting the fibrous tissue of the cutis, the reticular tissue of the labial glands, and the glands themselves.]

Dublin Quarterly Journal, August, 1847, *p.* 241.

92.—*On the Treatment of Chronic Inflammation of the Gums.*—By John Tomes, Esq., Dentist to Middlesex Hospital.—The cause should be removed—the affected gum should be from time to time lightly scarified with a sharp lancet, much in the manner that granular conjunctiva is scarified; astringents should be frequently applied, and of these tannin is the best: this powder should be rubbed with the finger twice or thrice a-day over the affected part. Teeth that have been loosened by inflammation of the gums tend to keep up the disease by their mobility; the patient may not, however, consent to their removal, especially if the front teeth are the ones implicated. In this kind of case I have seen great benefit follow the use of compound spirits of horse-raddish, and also spirits of scurvy-grass; they should be applied to the affected gum, three or four times a-day, with a bit of soft sponge.

There is a singular modification of chronic inflammation of the gums, in which the gum, instead of thickening and becoming irregular on the surface, seems rather to decrease in size, assumes a very smooth and polished surface and mottled aspect; the disease often extends over the surface of the hard palate, and is attended with acute intermittent pain; the pain may be confined to one side of the mouth, or even to half of the upper jaw; it very commonly comes on in the evening, and keeps the patient awake half the night. The cases of this complaint that have come under my notice have been confined to poor middle-aged females, in whom menstruation was becoming irregular, or had altogether ceased; and they have always been cured by the regular use of mild aperients, I have usually given a small dose of sulphate and carbonate of magnesia twice a-day, and at the end of a week or nine days the pain in the gums has ceased, and that structure has assumed its healthy appearance,

[The best treatment, Mr. Tomes tells us, for ulcers on the gums, is to touch them with nitric acid, diluted with an equal quantity of water.]

Medical Gazette, Oct. 1, 1847, *p.* 574.

93.—*On the Extraction of Foreign Bodies from the Œsophagus.*—By M. Fontan.—Two pieces of money and a wedge of wood have been easily removed from the œsophagus, by means of an instrument invented by M. Fontan, constructed and used in the following manner:—The shaft is a small piece of whalebone, of forty or fifty centimetres long, one and a half wide, and three millimetres thick; its extreme end cut like a carp's tongue, and perforated, two millimetres from the edge, with a red-hot needle. This hole receives a piece of red thread rather longer than the whalebone; the part three millimetres from the hôle, nearly to the end, should be thinner, in order to render it more flexible. When used the operator draws the thread rather tightly, to make the whalebone concave, to agree with the convexity of the root of the tongue. When it reaches the pharynx, he loosens the thread to give the stem its natural rectitude, and to avoid by this means contact with the epiglottis. He then raises his hand to give the instrument a little swinging movement, and proceeds to search for the obstruction, which is easily discovered by a slight resistance and a rather dull sound. At this period it is sufficient to press the instrument gently, so as to make it pass between the obstruction and the hinder division of the pharynx. When it is thought that the whalebone has passed this body by two or three centimetres, we withdraw the thread until the whalebone comes into the form of a V, so as to surround the foreign body. It then only remains to withdraw the instrument and hold the thread tightly, to keep the whalebone in a bow, to prevent injury to the mucous membrane of the œsophagus and the muscular fibres, which appear to contract as the instrument is being withdrawn.

Medical Times, Sept. 4, 1847, *p.* 553.

94.—ON SOME OBSCURE FORMS OF HERNIA

By Edward Cock, Esq., Assistant Surgeon to Guy's Hospital.

[Mr. Cock has published an able paper on those cases in which, independently of intus-susception or volvulus, the symptoms of strangulation remain after the real or apparent reduction of the intestine; cases in which there has been an old rupture through the ordinary outlets, although the present seat of stricture is within the abdominal walls. Mr. Cock says:]

I believe I shall render myself most intelligible by describing under three different forms, certain cases where strangulation exists as the result of a hernial protrusion, but which, at the same time, are not remediable by the ordinary operation for hernia.

The first of these forms is, where, by the manipulations of the surgeon or the patient, the peritoneal sac, together with its contents, has been returned through the internal ring, and occupies a position between the internal abdominal walls and the peritoneum. I can call to mind more than one instance in which it seemed probable that this had occurred; but I can find no record of the particulars of the cases, neither do I remember how far the views entertained were verified by post-mortem examination. It is what the French call "reduction en masse," or "reduction en bloc;" and I believe Mr. Luke was the first in this country to draw attention to the subject in an admirable paper published in the Medico-Chirurgical Transactions. He has given the successful result of two cases where symptoms of strangulation continued after the reduction of a hernial tumor, and where he was led to suspect the nature of the mischief by the clear history of a former rupture, its complete disappearance under the taxis, and the entire absence of any thing like the existence of a sac, after an external examination of the rings and the inguinal canal. Under these circumstances he laid bare the inguinal canal, exposed and dilated the internal ring, until he brought into view the sac lying immediately above it, between the fascia transversalis and the peritoneum. The sac was then drawn down into the canal; and the original hernia was thus reformed and operated upon like an ordinary bubonocele. The paper is one of immense value in a practical point of view, and the satisfaction which I experienced in reading it could only be exceeded by that of the successful operator in these obscure and difficult cases.

A third case is likewise mentioned in which the operation was performed too late to save the patient's life, the intestine being already in a gangrenous decomposed state.

Another instance of the reduction en masse is recorded in the Museum at Guy's Hospital, and illustrated by drawings of the parts. A small scrotal hernia, which had existed and occasionally descended for thirty years, was returned, together with the sac, into the abdomen. The symptoms of strangulation continued, until the patient died three days after the reduction.

I shall dismiss this form with the foregoing allusion to Mr. Luke's Paper, which contains far more information on the subject than my experience will enable me to supply.

The two remaining forms are of a totally different nature, more puzzling and obscure in their character, and far less amenable to surgical remedial measures.

The first consists of the prolongation of the hernial sac beyond the internal ring into the abdominal cavity, where it becomes dilated into a pouch of greater or less size, lying on the fascia iliaca, between the internal ring and spinous process of the ilium, and contained between the fascia transversalis and the peritoneum. On the inner aspect of this pouch, at a distance of between one and two inches from the internal ring, is the opening of communication with the peritoneal cavity, and the circle of this opening forms the seat of stricture. This pouch is no doubt of slow and gradual formation and appears to be the result of frequent and protracted manipulation to reduce an old hernia, which has been in the habit of constantly descending through a lengthened period of time. The repeated application of the taxis, and the means constantly used by the patient to return the intestine as often as it is protruded, appear at length to have had the effect of separating the circle of peritoneum constituting the mouth of the sac from its connection with the margin of the internal ring; a portion of the sac becomes pushed upwards from the inguinal canal through the opening in the fascia transversalis, and gradually dilates into the cavity or pouch which I have already described.

A general outline of the history of one of these cases would probably be much as follows:—The patient has for years been the subject of a reducible inguinal hernia, which has constantly descended and been as often returned, sometimes, and especially during the latter periods, by prolonged and forcible efforts. Pain about the inguinal region and general abdominal symptoms, have occasionally continued for some time after this reduction was effected. Probably at the last descent unusual difficulty was experienced in returning the intestine, and it was gradually worked up, as it were, instead of passing into the abdominal cavity with that celerity and gurgling sound which characterizes the successful manipulation of the taxis upon a considerable volume of intestine. Perhaps in these cases it will be found that the symptoms of obstruction have supervened somewhat slowly, and are rather those of incarceration than strangulation. As no relief can be obtained by the ordinary means, an operation is determined upon, in the hope of finding a knuckle of intestine in the inguinal canal or at the mouth of the internal ring. The sac is opened and found empty or perhaps containing a portion of omentum. The inguinal canal is next explored and found to be unusually long; and this is a remarkable feature in these cases. Instead of the direct communication between the scrotal sac and the abdominal cavity at the external ring, which obtains in most old herniæ from the obliteration of the inguinal canal, the latter will be found to have maintained its original length, the distance between the rings appearing to be almost greater than in the normal state. At length the internal ring is brought into view and is found perfectly free and unusually large, and the finger appears to pass readily into the abdominal cavity, where it comes in contact with the intestines. No more can be done, the confines of explorable ground have now been reached, the patient is abandoned to his fate, and dies.

A post-mortem examination explains the mystery. The internal ring through which the finger passed did not communicate with the abdominal cavity, but led into the adventitious pouch, where the incarcerated intestine was recognised and felt.

[Mr. Cock gives three instances of this form of hernia, and observes that in the diagnosis of such a case some assistance may be derived from the history of the case, and from the unusual length of the inguinal canal, and the situation and large size of the internal ring, "conditions which are at variance with the features which ordinarily characterize an old hernia." Mr. Cock continues:]

The third class of cases of bowel obstruction connected with a previously existing hernial protrusion depends upon, and is caused by, an old standing irreducible omental hernia; irreducible, either because it has contracted adhesions to the walls of the sac and the margin of the internal ring, or from a gradual accumulation of fat, which renders it too large and bulky to be returnable through the opening whence it came down. It frequently happens that intestine and omentum descend together into a hernial sac; the intestine is returned, but the omentum remains: or a hernia may consist of omentum only, which is always more difficult to reduce than bowel. In either case, as its presence produces no particular symptoms, it is allowed to remain, and the remote danger of the condition which is thus produced is overlooked. The condition is this:—That the omentum, after passing down the abdomen, becomes contracted into a firm and unyielding cord as it approaches the internal ring, and, entering that aperture, becomes firmly fixed. Thus we have an unnatural band crossing the iliac fossa, and producing a greater or less degree of tension or pressure on the intestines over which it is stretched. The free motion of the intestines are somewhat checked by this band, and, from some accidental circumstance, a coil becomes jammed under it, as it were, and is unable to release itself. This may take place quite independent of any recent hernial protrusion, and is therefore one of the numerous causes of internal abdominal obstructions to which I alluded in the early part of my paper, as not coming within the scope of my observations.

A recent descent of intestine, however, into a hernial sac which is thus connected with irreducible omentum, is of all things most likely to produce the unfortunate condition just alluded to; for the very passage of the bowels through the internal ring would naturally tend to bring that part of the intestine just above the mouth of the sac immediately under the influence of the omental cord. Thus several cases are on record, where, after the reduction of a hernial protrusion, obstruction has been maintained from this cause until it terminated in the death of the patient. Some of these have come under my own observation, where an operation has failed to relieve the patient, as no cause of strangulation could be discovered external to the abdominal cavity.

It would be a loss of time to go over the leading features of an unfortunate case of this kind: their general character amounts simply to this:—A descent of intestine takes place into a hernial sac which has existed for a shorter or longer period of time, and which probably contains adherent omentum. It is reduced after the usual appliances, and with the ordinary degree of force. The symptoms remain; an exploration of the sac and the canal discovers nothing but omentum; the patient continues unrelieved, and dies.

Guy's Hospital Reports, 1847, *p*. 52.

96.—*New Treatment for Strangulated Hernia.*—By A. W. MACKIE, Esq., Cupar, Fife,—[Mr. Mackie was sent for to a case of strangulated oblique inguinal hernia, of two days duration; after applying the taxis and other means unsuccessfully, he tried the plan recommended by Dr. A. Buchanan, of Glasgow. Mr. M. says,—]

The mode is very simple. I placed my patient on his back, flexing the thighs on the pelvis, and putting the muscles of the abdomen in as relaxed a condition as possible. I then desired the patient to empty his lungs of as much air as possible, and having an assistant at hand, who immediately held his nose and mouth to prevent inspiration, I applied gentle pressure over the tumour in the proper direction, and had the satisfaction to feel it give way, and, as it were, *draw up* into its natural cavity.

The *rationale* seems to me to be, when the lungs are emptied of air, the diaphragm is, as it were, sucked up to fill the diminished thoracic cavity; it (diaphragm) exerts a tractile power over the floating viscera of the abdomen, and draws the protruded intestine upwards—naturally assisting, if not altogether accomplishing, the reduction of the hernia.

Medical Times, *Sept.* 18, 1847, *p*. 594.

96.— *On Strangulated Hernia.*—By CLEMENT HAWKINS, Esq., Surgeon to the Cheltenham Dispensary.—[In the Provincial Journal, for May 19th, Mr. Clement Hawkins relates a series of cases of strangulated hernia which occurred in the Cheltenham General Hospital, under Messrs. Fowler, Eves, and Fricker. In commenting on these cases, Mr. Hawkins says,—]

In performing the operation in the cases which form the subject of this communication, the old practice of opening the sac was adopted. I have never witnessed an operation for strangulated hernia in which the stricture was divided and the contents of the sac reduced, without exposing its contents. I have repeatedly seen the attempt made by the most skilful anatomists and dextrous surgeons, but it has always failed, and in many instances the patient has been subjected to the inconvenience of a larger hernia than existed before the performance of the operation, by the division of the external abdominal ring.

About twelve years ago I heard one of the most able and accomplished surgeons in England say, that, however desirable it may be to divide the stricture, without opening the sac, it was a proceeding involved in difficulty, and generally inapplicable in practice. This opinion is opposed to the experience of that excellent surgeon, Mr. Aston Key, to whom is due the merit of reviving the operation of Petit. This gentleman attributes much of the success he has met with in practice to the adoption of this method. In a recent work on abdominal hernia, by Mr. Teale, of Leeds, there is a table of thirty-two cases of strangulated hernia, in which this operation was performed; twenty-seven recovered, and four died; the result of one is not mentioned. Certainly the amount of successful cases is unusually great, especially as three of the cases were of the umbilical form, all of which recovered.

The late Mr. Hey, of Leeds considered this operation very objectionable, and never performed it.

There is one class of cases, however, in which it is desirable to perform this operation,—namely, in large scrotal herniæ. In these cases, when the intestines are exposed and the stricture divided, considerable time is spent in reducing the contents of the sac; the long-continued manipulations often induce fatal inflammation, or the patient rapidly sinks from the combined effects of exhaustion and the shock of the operation. When the contents of the sac are intestine and omentum, the symptoms are not so urgent, and the danger of an operation is lessened, because the intestine is protected in a great measure from the injurious pressure of the stricture.

***Prov. Med. and Surg. Journal, June* 2, 1847, *p*. 292.**

97.—*New Treatment of Strangulated Hernia.*—By James Allen, Esq., York.—[Mr. Allen recommends, upon speculative grounds, a new plan of treatment for strangulated hernia. He advises us:—]

When the strangulation is such as to resist the efforts of the patient and a moderate attempt by the taxis, cautiously to apply to the part fomentations, at about the temperature of the surface, and the degree of heat to be progressively increased as high as the patient can tolerate; then the heat to be gradually reduced until the applications are quite cold, which should be persevered in for half an hour, or even an hour. If the hernial tumour is not sufficiently reduced in volume to be easily returned, the parts must be submitted to the same gradual exaltation and depression of temperature, the transitions from one extreme to another being so progressive that the patient is hardly sensible of each immediate alteration; the time from one extreme to the other should not be less than an hour.

By the plan just advised, I imagine that the gradual increase of temperature excites the circulation of the capillaries of the protruded viscera without increasing that of the heart, and the congestion on the venous side is in some measure relieved, and thus the equilibrium is partially restored. Again, the gradual diminution of temperature contracts the volume both of arteries and veins; thus preserving the equilibrium, the repetition of the process corrects any irregularity, while it preserves the equality of the circulation until the normal condition is restored: then the hernia is easily reduced by a power exerted externally, which can always overcome that which from within caused the displacement, when the dimensions are the same.

Now, while I advise this plan of gradual increase and diminution of temperature by wet applications, I would by no means be understood to disregard other accredited appliances; for I deem the warm bath, bleeding, or tobacco, may be used advantageously, yet only on the great principle that they act by relieving the oppressed circulation, and that they should be adopted for this specific object, and not on the erroneous notion of mere relaxation.

Medical Gazette, Oct. 8, 1847, *p.* 628.

98.—*Cases of Strangulated Hernia treated by Opium.*—[The treatment of strangulated hernia by opium has been more than once referred to in the previous volumes of this Retrospect; see vol. 4, p. 149; vol. 7, p. 239. Cases are also recorded in the Provincial Journal, August 28, 1841, Feb. 5, 1845; Medical Gazette, Feb. 18, 1842, (two cases,) and Jan. 12, 1844. To these the following may now be added. Charles Mayo, Esq., surgeon to the Winchester County Hospital, was sent for to see a woman, 67 years of age, with a femoral hernia which had been strangulated 24 hours; the tumour was as large as an egg, painful, and tender. Mr. Mayo says,]

She was constantly sick. I gave her a cathartic enema, and used the taxis without effect. I then left her six pills with a grain of opium in each, desiring her to take one every hour till I saw her again, beginning at four p.m. At nine o'clock I found that she had taken four of the pills, that the vomiting had ceased after the first, and that she was quite easy; cold cloths were kept applied to the swelling, which remained immovable. As she was so easy, I advised the two remaining pills to be taken at intervals of four hours, another glister to be thrown up in the course of the night, and a cathartic draught to be given at six in the morning.

April 26th. I received a message this morning that Mrs. D. was completely relieved, and on my calling about twelve o'clock, I found that the fifth pill was taken at midnight, and the sixth at four in the morning; after this she felt completely relaxed all over, her bowels rumbled about, and the swelling seemed to be enlarged and distended with wind, but soon after on feeling it with her hand, it had become softer, and presently went entirely up under very slight pressure. She took the draught at six, it had operated satisfactorily.

[The other case was in the practice of Dr. R. Long, of Arthurstown. The patient was a woman, 47 years old, and the hernia inguinal. The strangulation symptoms had existed for two days, and were very intense; the taxis, aided by bleeding, warm bath, ice to the tumour, and tobacco enemata, had been carefully and assiduously applied. She refused to submit to operation, and, as a last resource, opium was tried.]

A pill containing three grains of opium and two grains of calomel was directed to be given every hour, and an enema of strong chicken-broth thrown up every fifteen minutes, in order to support her failing strength. The three pills first given were speedily rejected; the fourth and fifth were retained; a cessation of pain and vomiting followed, and by the time that eight pills were given an urgent desire to evacuate the bowels followed the administration of one of the broth injections, which led to relief and perfect recovery.

Provincial Med. and Surg Journal, June 16, 1847, *p.* 319.

[Dr. Butler Lane also gives us the following on this subject:—His first case was that of a woman, 45 years of age, the subject of an oblique inguinal hernia, which had been strangulated for at least three days. The taxis had been carefully and repeatedly applied; the symptoms were extremely urgent, and prostration was increasing. Dr. Lane says,]

Her danger was imminent, and in fact death seemed almost inevitable. The state of depression rendered a tobacco enema objectionable; it was, however, agreed to try it. but though its sedative influence was fearfully powerful, yet it did not seem to afford any advantage, no fæcal evacuation being obtained, and the stercoraceous vomiting and other symptoms continuing as before. As a last resource, I then suggested the administration of opium, in doses of one grain every hour, which was agreed to, though with but little anticipation of effectual relief.

I saw the woman next day with Mr. Stilwell, and was agreeably surprised at the change which had taken place. Twelve doses of opium had been administered, and she was fairly under its influence, having the appearance of a helpless state of intoxication. She had slept much, and when roused, her answers and conversation were very incoherent. The pulse had increased in power, and diminished in frequency. No complaint was made of abdominal pain, and there was much less tenderness in the umbilical region and the site of the tumour. The sickness had ceased and food had been taken and retained. The improvement was permanent and progressive. A simple enema was administered that evening, and brought away much fæcal matter. In the course of the day the tumour became spontaneously much reduced in size; for some time subsequently a small swelling remained in the groin, and whether it ever disappeared completely I am unaware.

[The second case was one of femoral hernia occurring in the the practice of Mr. Allan. The woman was 70 years of age, and the strangulation symptoms had existed 48 hours when Dr. Lane was sent for. The taxis, enemata, &c., were tried in vain, and on the next day,]

Mr. Allan proposed that the tobacco enema should be used, and in the event of its failure, that the operation should be had recourse to without farther delay. Bearing in mind the success which had attended opiate treatment on the former occasion, I suggested its adoption in the present instance, as there was still great aversion to the operation on the part of the patient and her husband. Mr. Allan acceding to my proposal, one grain of opium in the form of pill was administered every hour.

When we met the following morning eight doses had been taken, and the narcotic influence was manifest, though the medicine was evidently well borne. The pain and vomiting had ceased, but the bulk of the tumour was not diminished, nor had the bowels been moved.

After the administration of four more doses the tumour was found to have diminished to one half its former size, the patient still continuing free from pain and sickness. A large injection of gruel with castor oil was then thrown up the rectum, and ample evacuation of fæces soon took place. The relief was permanent. A small swelling remained in the groin, and still continues, probably containing a portion of incarcerated omentum. In the words of Mr. Allan, "*Thus was this patient saved the risk and pain of a serious operation, by a remedy, every dose of which brought relief and comfort.*"

I shall now venture on a few brief observations in reference to the *modus operandi* of opium in hernia, and my opinions on this subject have emanated rather from a long continued investigation of the action of the various narcotics and sedatives, than from a mere wish to clothe the above isolated facts with an appropriate and well-seeming theory.

The pathological elements of strangulated hernia are two-fold:—on the one hand those connected with the protruded bowel, and on the other those depending on the muscular and tendinous tissues which surround the opening through which the intestine protrudes. That the tendinous structure can only exert a passive influence is generally allowed, and that *permanent* spasm can under ordinary circumstances affect the fibres of the voluntary muscles, or even those which are instinctive or spinal-motor, would not on reflection seem probable; and yet on this latter assumption have all the theories of hernial strangulation been chiefly founded as far as I am cognizant thereof. Now, in a pathological point of view, beyond the visceral extrusion, through a narrow and unyielding opening, I believe the active cause of hernial strangulation to be essentially connected with the intestine itself. Suppose a portion of intestine forced into a cavity of which the neck is somewhat constricted. Now, we know that the general effect of superficial pressure on any portion of the body will occasion a greater obstacle to the venous part of the circulation than to the arterial. The balance of action of the two circulating media being disturbed, the afflux will incline to exceed the eflux, until such time as circulation is completely arrested, when gangrene must take place. In accordance with what I have stated above, any medical attempt to relax the external muscular structures would be unavailing; but on the other hand, if we can relax and reduce the bulk of the intestinal substance, we might then hope for advantage. Now, let us look at the influence of the various sedatives, and see how far any one of them may be expected to conduce to the desired end. Warm baths and bleeding may lower the general system, and relax the muscular structures, but the results of their employment do not sufficiently indicate a decided bearing on the local morbid state. Antimony exerts a special depressing cerebral influence; it diminishes the power of the heart, and lowers respiratory action; it also affects the contractility of the voluntary muscles, but it does not diminish the peristaltic contraction of the intestines in the first instance, neither does it *immediately* influence the capillaries; moreover, it is objectionable on account of exciting irritation in the mucous membrane of the alimentary canal. Belladonna exerts its chief influence on the voluntary muscles; so likewise does tobacco, which in its cerebral influence will subsequently determine to the heart; over the centre of the circulation, digitalis appears to exert a direct control, but it has no peculiar action on the capillaries. Aconite, on the other hand, seems to have a special relation to the sensitive power, and seems to exert no direct influence over contractile or motor structures. The diminution or even destruction of organic sensibility appears to result from the action of prussic acid, so as to destroy the connection between action and re-action. Now opium is essentially one of the most powerful sedatives we possess, although undoubtedly stimulation may be primarily consequent on its administration under peculiar circumstances. Its action is very general. When freely administered it relaxes all the contractile tissues, and primarily and essentially those which are involuntary. It soon reduces the force of the circulation, and though at first it may tend to produce a state of capillary congestion, yet as soon as the balance of action between the centre and periphery of the circulation is restored somewhat, the capillaries of the surface and of the membranous viscera will be deficient in their usual contents, and lose their natural irritability. Now, with emptied and inactive capillaries, and relaxed contractile fibre, is it not to be expected that the hernial tumour would become reduced in bulk, motionless, insensible, and flaccid?—the intestinal structure is in fact utterly paralysed, and the state which has caused strangulation being removed, as well as the undue internal pressure by which it was originally caused, may we not fairly hope for the spontaneous reduction of the protruded viscus, even as it seemed to occur in the instances which I have adduced?

Experimental enquiry supports the opinion I have advanced respecting the medicinal influence of opium. If the heart, while yet pulsating, be removed from the body of an animal, the muscular contraction will immediately cease on applying a solution of opium, and the same is the case with the vermicular motion of a portion of intestine. The velocity of the capillary circulation is found to diminish on the application of opium; and where a person is under the poisonous influence of the drug, I need scarcely remark that blisters and sinapisms will fail to produce the slightest irritant effect, so completely is organic sensibility destroyed. In conclusion I may remark, that in my experience, the safest and most effectual method of bringing the constitution under the influence of opium, in ordinary cases, is by the repeated and frequent administration of moderate doses; and I am therefore inclined to advocate the same plan in hernia, care being taken to carry the administration to a sufficient extent.

Since writing the above, the influence of athereal inhalation, in cases of hernia, has come to my knowledge; whether the medicinal action thereof is superior to that of opium remains to be seen; but be that as it may, the lately recorded facts support my view of the pathology of hernia. Mr. Tuson's case, published in the *Medical Gazette*, is especially remarkable. On the abdomen being opened, large masses of intestine escaped, but on ether being used, the bowel returned spontaneously, apparently collapsing rather than contracting under the medical influence.

Provincial Medical and Surgical Journal, April 21, 1847, *p.* 203.

99.—*On the Operation for Strangulated Hernia external to the Sac.*—By T. P. Teale, Esq., F.L.S., Surgeon to the Leeds Infirmary.—The operation, without opening the sac, ought to be performed in all cases in which it is practicable, unless the local or general symptoms indicate the existence of gangrene or an advanced stage of inflammation. In accordance with this opinion it may be stated, as a general rule, that the operation should be attempted—1st, in most cases of large herniæ; 2ndly, in many herniæ of middle size; and 3rdly, in but few small herniæ, unless in the earliest stage of strangulation.—*Treatise on Hernia, p.* 117.

100.—*Case of Polypus of the Rectum.*—By Dr. Burns, Frankford, U. S.—[A little girl, five years old, had been subject for two or three years to great distress in defæcation, accompanied by the protrusion of a polypus. She was considerably reduced by sanguineous discharge. Dr. Burns says,—]

On examination of the anus, I found a polypus protruding as large as a small seckel pear, being considerably diminished at the time from frequent bleedings. On dilating the anus as much as possible, by traction in opposite directions, I found the pedicle to be somewhat elongated from the mucous membrane of the rectum above the sphincter; to this I immediately applied a ligature of silk thread, allowing the ends to remain long, which were secured externally by a strip of adhesive plaster; about twenty-four hours after its application the polypus separated, and two days after, the ligature came away. She suffered some pain while the ligature remained, which did not demand special attention. Since its removal about eight months have passed away, and there has been no return of the disease; no hæmorrhage, the function of the part is normal, and the child's health and appearance very much improved.

Medical Examiner, (U. S.) *March*, 1847, *p*. 146.

101.—*Cases of Hæmorrhoidal Tumours.*—By Dr. W. HARGRAVE, Surgeon to the City of Dublin Hospital.—Mat. Cullen, æt. 30, a shoemaker, admitted into the City of Dublin Hospital, March 31st, 1847, of a healthy appearance, with well-marked vascular tumours of the rectum, and close to the verge of the anus.

Patrick Kirwan, æt. 47, labourer, admitted April 17th, with a large vascular tumour within the verge of the anus, on the right side; also a large oval, dark-blue coloured external pile on the same side: it lay in an antero-posterior direction, and was as large as the adult ungual phalanx of the thumb. This man presented a very debilitated and anæmic condition from previous and frequent losses of blood by the rectum.

Denis Toomey, æt. 38, a sailor admitted April 21st, a strong, florid athletic man, with a single large vascular tumour situated within and on the posterior surface of the rectum, and a grape cluster of piles placed inferior to it.

These cases were locally treated by the application of the nitric acid, by mild aperients for the bowels, an occasional enema of the sulp. zinc. at night, particularly with Cullen, in whom there was also great relaxation of the mucous membrane of the rectum, as far as the finger could reach; and a liniment of the liquor diacetatis plumbi, and oleum olivæ.

In these cases the pathology of some of the affections of the anus and of the rectum presented the following points of interest. In the first case, the vascular tumours exhibited their well-established characters, both in structure and appearance; in one of them the blood was discharged in two or three minutely small streams, from others it oozed away generally from the surface—corroborating very accurately the description given of them by Professor Colles in the Dublin Hospital Reports. In the second case the man was exsanguined from previous hæmorrhages from the bowels; scarcely any blood flowed from his tumours, but the oblong external pile was of a solid consistence, and could not be emptied or diminished in size by any pressure. This solid body, however, slowly shrunk in its dimensions according as the vascular tumours were reduced and removed under the agency of the nitric acid. It was my intention to have removed this single pile by operation, but declined so doing when I saw the progress of it under the agency already mentioned, and not wishing to incur any risk to his strength from hæmorrhage. The third case was of interest, as exhibiting what should be considered as the *true pile*, formed by the dilatation of the hæmorrhoidal veins, which by moderate pressure could not only be emptied of their fluid blood, but depressions actually formed on their surfaces, so effectually could it be made to recede from the dilated vessel; the relations between this affection with the liver and portal circulation were well and satisfactorily established by the patient's history of his case, as the fit of the piles was always preceded by acute pain in the right hypochondrium; he also presented a well-marked instance of sympathy between the urinary bladder and the rectum, as on admission he was suffering from retention of urine of some hours duration, which Mr. Phillips relieved by the instant use of the hip-bath.

Our pathological knowledge as to the nature of piles receives some illustration from these examples of rectal disease; proving that the opinions of surgical writers on this disease is in some cases correct, while by others an erroneous idea is entertained of their true character. The second example (Kirwan) indicated the solid pile, produced by the extravasation of blood into the surrounding tissues, there becoming consolidated, the effusion being the result of the frequent congestion of these vessels: an opinion advocated by many continental and British surgeons of eminence. The pile, or that dependent upon the true varix of the rectal veins, was very well illustrated by the third example (Toomey), and I have no doubt that unless this man pays great attention to the portal and chylopoietic organs, that he will suffer from repeated attacks of congestion in the hæmorrhoidal veins which will finally eventuate in the first kind; the anatomical structure of the vascular tumour has been clearly ascertained by the late Professor Colles in the Dublin Hospital Reports. We are thus enabled to classify these tumours into three species:—1st. The true vascular tumour, as described by the last authority, which consists of a large supply of blood vessels; these divide into numerous branches, which ramify extensively, and by interweaving with each other, form these tumours. 2nd. The pile, the result of extravasated blood, either from the hæmorrhoidal vessels, or from the internal iliac veins into the surrounding tissues, constituting in some instances a solid swelling, sometimes a spongy one.

"This effusion most probably is derived from the venous capillaries or radicles, and not from their trunks, which, by being frequently shed, slowly excites to the formation of the disease; in most instances, the external, fleshy, and pendulous hæmorrhoidal tumours, derive their existence from the internal iliac veins. The spongy structure of these tumours may continue for years, but occasionally it happens from constant irritation, they are converted into a semi-cartilaginous mass, being firm, yellow, and nearly bloodless."—*Bushe.* 3rd. The pile formed by a true varicose condition of the hæmorrhoidal veins, giving origin to what are denominated internal hæmorrhoids, and which may be converted into the second species.

In some instances which I have heard of incessant hæmorrhage occurring after excision of some of these affections, and in many of which I have read of the same occurrence, it seemed to follow in consequence of inattention to these pathological conditions; for when the third kind is large, andthe vein has been laid open by the free application of the knife or scissors, particularly if the diseased structure is situated above the sphincters of the anus, the surgeon can expect nothing but a free and copious discharge of blood, the structure of the portal veins facilitating such a sequel to the operation; still, in some few cases, the excessive hæmorrhage has been discovered to follow from the division of an artery.

Attention to these different conditions of disease, also to the relations of the pile or tumour to the sphincter ani, will always enable the surgeon to be prepared for hæmorrhage, and to have his means constantly in readiness to arrest it in case it should follow a well-considered and executed operation.

Dublin Medical Press, Aug. 25, 1847, *p.* 114.

URINARY ORGANS.

102.—ON URINARY FISTULA.

By Wm. Colles, Esq , Surgeon to Steevens's Hospital, Dublin.

[Mr. Colles gives a very excellent practical account of urinary fistula,—"fistula in perineo," as it is rather improperly termed: he distinguishes two forms, one originating from a local cause, the other constitutional. The first arises from obstruction to the free passage of urine through the urethra, from obliteration of the canal, the result of sloughing, or more frequently from neglected or improperly treated stricture. The disease commences in acute abscess, with severe constitutional symptoms.]

The theory, says Mr. Colles, offered to explain the formation of the abscess is this, that from the narrowing of one point in the urethra, and the consequent increased force required to evacuate the bladder, the urethra comes to be dilated immediately behind the stricture; that here a drop or two of urine constantly remains; this produces irritation, and finally ulceration, in the spot; that the urine escapes through this ulcer into the cellular membrane beneath, disorganizes it, and thus causes the abscess.

This theory may explain the origin of this abscess in many cases, but it cannot apply to all.

[The indication of treatment is commonly said to be, to prevent the urine entering the fistula, by making the patient wear a catheter: this is an inconvenience, as every practitioner must have found. Mr. Colles tells us that—]

As the stricture is the cause of the fistula, we should direct our chief attention to the removal of it by the simplest means: if we introduce a catheter or bougie perhaps every second or third day, we shall find that according as the stricture is dilated the fistulæ will close, less urine passing through them each time. If we find this method fail, after a fair trial, we can then resort to the constant wearing of a catheter, when the urethra will have become more accustomed to its presence.

[Sometimes the fistula does not heal, though a catheter has been long worn:—here the application of a caustic has been advised, but it is troublesome and ineffectual: occasionally, in such a case, the mere removal of the catheter will cause a manifest improvement in the fistula. Speaking of the operative proceedings sometimes required, Mr. C. remarks:—]

When we cannot, by any of the methods usually recommended, find the urethra behind the obstruction, we must resort to a more tedious operation. We place the patient as in the operation of lithotomy; use no staff or instrument in the anterior portion of the urethra; let an assistant hold up the penis and scrotum, but make no pressure; leave the parts as much as possible in their relative positions; make a free incision along the raphe of the perinæum; deepen the incision by cutting always in the same line till we have got through a depth of parts previously calculated on, recollecting that the apparent depth at which the urethra lies is much increased by the hard and unyielding nature of the altered structures through which we cut. Sometimes we shall feel, by the want of resistance to the point of the knife, that we have entered the urethra; often we have not even this to guide us: however, having carried the incision deep enough, we proceed to search for the urethra. The eye will seldom be able to distinguish it at the bottom of the incision: sensation, conveyed by the finger, or a bent probe, will often inform us if we have to cut deeper, or the probe may enter the opening in the urethra, and pass on to the bladder. We are told, by desiring the patient to pass water, that we shall perceive the opening in the urethra, if it has been effected; but it is seldom that a patient, suffering under a protracted operation, can direct his attention to exert the combined actions necessary to this evacuation, and even if he did, we can see the urine welling up, and filling and overflowing our incision, but we fail in seeing the opening in the urethra from which it issues. Having got the probe passed, and on it directed a gum elastic catheter, into the urethra, behind the stricture, the remainder of the operation is comparatively simple. Pass a probe from the incision up the urethra, till we arrive at the obstruction; then introduce a staff into the anterior portion of the urethra; divide the parts between the two instruments, until one will freely pass into the portion of canal occupied by the other; then cut off the head of the catheter, which is lying in the bladder, fix this anterior portion of the catheter to the end of the probe, and thus pass it through the orifice of the penis. In two or three days' time we shall be able to introduce a larger instrument into the bladder, the stricture will be removed, and the parts will heal gradually and firmly.

Such is the form of fistula arising from obstruction, generally the only one noticed by surgeons. Yet we often meet with the disease arising from a local cause, but not from stricture. In a former communication I related some cases where fistula was connected with disease of the prostate gland, and there a large-sized catheter would readily pass. Fistula is seen connected with ulcerated opening of the neck of the bladder, and other diseases of that viscus, or with a large abscess situated between the bladder and pelvis. It has followed, at times, some rough or awkward introduction of instruments, where there has been reason to fear a false passage has been produced. We also have seen fistula where no cause could be assigned for their appearance. This latter form generally arises far back in the urethra, runs close to the rectum, and will sometimes open into that viscus, and thus materially add to the patient's sufferings; for every time he goes to pass water, some of it will escape into the rectum, and will either run down the thighs, or the patient must evacuate it as if at stool.

In this form of disease, of course, our first endeavour should be, from the symptoms, and an accurate examination, to discover the original disease, and try to remove it, for till it is cured, little can be done with the fistula; till when, our efforts to remove it by the ordinary methods will, we regret to say, too often fail.

We shall sometimes succeed by making the patient wear the catheter; sometimes the operation will cure it. And here the proceeding is simple, for we can readily pass a staff into the bladder, and thus have a sure and evident guide to our incision; we can readily divide the fistula and urethra, and make the wound heal from the bottom. Yet in this form of fistula the operation must oftener fail than in the former case. It may heal for a time, but will be liable to return on the slightest provocation.

[But there is another form of urinary fistula, arising independently of urethral obstruction, and being intimately connected with a deranged constitution. It was first noticed by Mr. Colles's father, and is thus described by our author:—]

If the patient be an intelligent man, who can give a clear account of his disease, we learn from him that the formation of matter in the perinæum was not attended with any inflammatory fever, nor with the throbbing, severe pain usually attending acute abscesses; but he will tell us that he, perhaps, occasionally noticed some scalding in micturition, some small tumour in the perinæum, which did not give him much uneasiness or attract his attention; and that the progress of the abscess was slow, a considerable time existing between its first appearance and its opening. At times the patient will have no knowledge of the existence of the abscess till it bursts, or arrives to a very considerable size. He will tell us that he enjoys good health, but on a closer enquiry we shall find that he has been for some time in a low feverish state. His pulse is much quickened; he has considerable thirst, with slight impairment of his appetite, and loss of flesh, probably more remarked by his friends than by himself; when questioned, he often declares himself in perfect health; the countenance is pale, with, probably a tinge of yellow; the nails do not exhibit the healthy state of the subjacent part, but resemble a thin, transparent layer of ivory, laid on a surface of a purple hue. In many such cases there is some affection of the chest, generally cough, with copious expectoration, some distress in breathing, particularly when attempting any extra exercise.

If we turn our attention to the local appearances, we observe the orifices of the fistulæ rather patulous, but no fungous papillæ projecting from them; there is very little hardness round the openings, or leading from them; and no puckering of the skin, forming a kind of neck round the orifice. They generally exist in great numbers externally, and appear as if punched out of the skin; but we seldom find more than two openings internally. If we introduce a probe into one of the openings, we find it passing away from the urethra; often, from the same opening, it will run in different directions. When we come to examine the urethra of the patient, we cannot discover the existence of any stricture; and we can pass a full-sized catheter into the bladder without meeting any obstruction. Such is the history we receive from the patient, and such are the symptoms we observe in the form of disease, and we see that in both respects it differs materially from that previously described. In the one the general health is good; the abscess commenceswith inflammatory fever, is acute in its course, and causes much suffering; the fistulæ are few in number, marked by a red fungous papilla; there is an impediment in the introduction of a catheter, or evidence of some other local disease. In the other the health is much impaired; generally old chronic cough, with expectoration, is present; a low, sinking feverishness exists; the abscess is chronic, continuing for a long time, often unnoticed till it opens; the fistulæ are in great numbers, presenting merely wrinkles or perforations in the skin; the urethra is so free that a large catheter will pass readily into the bladder.

If, according to the generally received opinion and established rule of practice, we were to promise this patient to effect a cure by making him wear a full-sized catheter in the bladder, with the view of keeping the fistulæ free from any passage of urine, we should certainly have to suffer the mortification of a disappointment.

Should the surgeon be rash enough to undertake any operation with a view to the cure of the fistulæ, he would not only signally fail, but would render the state of the patient worse than before. We have known a surgeon operate in such a case, and the patient return to the country, the urine flowing through the large wound, which had not made the slightest effort to heal. We regret that we have no mode to guide us to the successful treatment of these cases. Of course, on first visiting the patient, the surgeon is tempted, both for his own satisfaction and also his patient's, to introduce a catheter; but even this proceeding requires caution, for we know that in such broken-down constitutions this operation, performed as carefully and gently as possible, has excited urinary fever, and even led to a fatal termination. Having satisfied ourselves as to the state of the urethra, we should be cautious how we repeat the operation; for if the catheter be introduced too frequently, even should the patient escape the urinary fever, still we may induce an irritation, and unhealthy action in the urethra, which may give rise to stricture.

Our local applications will, therefore, be more with the view of alleviating the sufferings of the patient, and allaying local irritation and inflammation. If we direct him, each time he goes to pass water, to make pressure on the part, or to keep a moderate constant pressure on the fistulæ, so as to prevent so much of the urine passing through them, we shall find after a time, that some of them will become much smaller, and even close. This, and the occasional introduction of the catheter, at long intervals, should be our principal local remedies. Our chief reliance, however, must be in an improved state of the general health. and the removal, or alleviation, of the cough, by those various means used in such cases, and which it is not our province here to mention.

Should we be so fortunate as to effect the removal of this, and restore the patient to good health, we shall find that the fistulæ will close almost without any local treatment; if not, we shall have him in a condition to bear the application of such other measures as we would expect to succeed.

We shall find, in too many of those cases, that the chest affection, or other organic lesion, will go on, and in the end, phthisis, or hectic fever, will carry off the patient.

Thus we perceive that there are two distinct kinds of urinary as of fæcal fistulæ: one form, local, acute, and requiring active treatment, and often operation; the other, depending on the deranged state of the constitution, not permitting much local interference, and entirely forbidding any operation for its cure. It can only be relieved by constitutional treatment.

Dublin Quarterly Journal, Aug. 1847, *p.* 57.

103.—*On a Method of Catheterism in Disease of the Prostate or Injury of the Urethra.*—By Dr. M. C. Bernard, Dundrum Dispensary. —It is well known to every practical surgeon the distress which patients labouring under disease of the prostate gland constantly suffer from retention of urine. This retention, which is for the most part caused by mechanical obstruction, (the walls of the urethra being either closed together by the swollen prostate, on the one hand, or the third lobe overlapping in a valvular manner the entrance of the urinary passage on the other,) may often be easily removed by a manœuvre first suggested by Mr. Hey, and now well known to every surgeon—viz., by withdrawing the stilet when the instrument has passed the membranous portion of the urethra, whereby the top of the catheter is tilted into the bladder. Leeches to the perineum, the hipbath, and anodyne enemata, are also useful auxiliaries to allay the inflammation and irritation which generally attend on these cases.

There is not, perhaps, a gland in the body more susceptible to changes in volume, from atmospheric influences than the diseased prostate. If a patient who is afflicted with this complaint gets even an ordinary cold, he is sure to suffer from an aggravation of all his symptoms. The prostate gland, already in a state of hypertrophy, becomes inflamed and congested: sometimes a permanent varicose state of the gland may supervene. In this altered state of the parts, the walls of the urethra are so closely brought in contact, that the patient with all his efforts cannot pass one drop of urine; often, in his vain efforts to micturate, the overloaded vessels of the distended prostate will give way, and hæmorrhage to a considerable extent may take place either in the urethra or bladder.

Under circumstances of this description, there is often considerable difficulty in passing an instrument into the bladder, and when the surgeon succeeds in introducing the ordinary gum-elastic catheter, he may find to his disappointment, after withdrawing the stilet, that not one drop of urine will pass: in fact, the instrument becomes choked with coagulated blood. Exactly the same thing may occur after you have succeeded in passing an instrument into the bladder, either in rupture of the urethra from accident, or where a false passage has been made by a forcible attempt to introduce a catheter.

[Dr. Bernard relates the case of an old man who laboured under retention of urine from diseased prostate, in which, when the symptoms had been aggravated by cold, the catheter (full sized gum) could with difficulty be passed; and when it was introduced into the bladder no urine escaped, the tube being blocked up with coagulated blood. Not having a syringe at hand to clear the tube of coagula, Dr. B. tried the following expedient. He says,]

I took a gum-elastic catheter of large calibre, without its stilet, and introduced into it (in the same manner you would put your finger into a glove) another catheter armed with its stilet, and of sufficient size to fill completely the larger one. I passed this double catheter with the greatest freedom into the bladder, and had the happiness to find upon withdrawing the smaller one, that the urine flowed in a full stream, at the same time giving my patient immediate relief from his protracted suffering.

Dublin Medical Press, June 16, 1847, *p.* 369.

104.—*Employment of Sponge-Tent to Dilate the Female Urethra.*—By J. Toogood, Esq., M.D., Torquay.—[Dr. Toogood thinks that the sponge-tent is as useful to dilate the female urethra as Weiss's dilator—at least he has succeeded in three cases simply by its use. Finding that Weiss's dilator caused much pain, he says that he has]

Preferred dilating the urethra with sponge-tent, which I have always found a safe, effectual, and easy mode of accomplishing the object. I have twice succeeded in this way in extracting a female catheter which had accidentally slipped into the bladder, with so much ease, that I should always adopt the same plan with confidence, for the removal of calculus or any other foreign body. The plan was as follows:—A sponge tent somewhat larger and longer than a female catheter was passed into the bladder, and allowed to remain eight or ten hours, by which time the urethra was sufficiently dilated to admit the passage of the finger readily into the bladder, nnd the introduction of a pair of forceps, by which the catheter was removed without any difficulty. In the first case the patient was not aware that the accident had happened; the catheter remained in the bladder fifteen days without producing any irritation, and the extraction was so easily effected that she was not conscious that any operation had been performed, and the bladder regained its power immediately. In the second, the catheter was retained seventeen days, during the whole of which period it occasioned much pain and irritation; nevertheless, on the fourth day after the extraction, the incontinence of urine ceased entirely.

I have repeatedly found the sponge-tent extremely useful in opening the neck of the uterus for the purpose of exploring its cavity, and for the removal of tumours. The introduction gives but very slight pain, and the dilatation is so gradually effected, as scarcely to be felt.

Provincial Med. and Surg. Journal, Oct. 20, 1847, *p.* 569.

105.—ON VESICO-VAGINAL FISTULA.

By M JOBERT.

The vesico-vaginal septum consists of two distinct walls, applied to each other, but not confounded, the free or mucous surfaces of which enter into the construction of organs of different functions. The wall of the bladder is separated from that of the vagina by an abundant and elastic cellular tissue, allowing of the distension of one of the cavities independent of the other, and of the displacement of one without the other. It is, then, possible to cut the wall of the vagina without interfering with the mucous membrane of the bladder, or with its muscular layer outside. Now this wall of the bladder is alone necessary to the repair of the viscus; we can then, in cases of considerable destruction of the double septum, do away with the tension of the parietes of the vagina after the union of the edges of the fistula, by cutting through this wall only, outside the points of suture. The dragging produced by too great tension is thus rendered nought, the rapid tearing of the flesh by the threads is consequently prevented, as also the separation of the margins. Thus, for example, the vesico-vaginal septum being destroyed, from the neck of the bladder nearly to its fundus, the borders of this enormous fissure may be brought together, and placed in contact, from before backwards, by employing sutures; then, if a transverse incision be made in the wall of the vagina, between the threads and the neck of the womb, without penetrating to the muscular parietes of the bladder, the uterus may regain its position by the devarication of the lips of the incision, and the cellular coat of the bladder alone is exposed, at the upper end of the vagina. In this way the remnants of the vesico-vaginal septum, preserving their entire thickness, and being in contact, may be maintained for a long time in apposition, and without suffering from dragging, although the margins have not been previously shaved. On the other hand, the posterior wall of the bladder being drawn downwards and forwards, becomes the inferior wall, and serves to close the opening into the bladder. If the bladder thus completed is rendered smaller, it is made up of the same layers—viz., mucous membrane and muscular fibres. The evacuation of urine may be rendered more frequent, but still it is subject to the will.

The preceding is not merely hypothetical, but the result of observations; and M. Jobert had a patient, whose vesico-vaginal septum was destroyed, as above supposed, by gangrene, which also had extended to the urethra; and yet the new neck of the bladder, though formed of only remnants, allowed the urine to be retained for three hours, under all the ordinary movements of the body, and was under the control of the will.

If the fistula be elongated, and occupy the median line, a double incision may be made from behind forwards, between the line of the sutures and the lateral walls of the vagina, in order to avoid the evils of any transverse draggings. If the fistula be on the right or on the left side, the incision should be made in the corresponding vaginal wall, which alone would be stretched. Then the line of suture, along with the wound, would be drawn towards the median line. In a word, incisions ought to be made in-the vaginal walls at all the tense parts which appear affected by dragging. Such is the plan of Dr. Jobert, which has the further advantage of being without danger. The author has found it to succeed in six out of eight cases.

As to the operation, it is less difficult than appears at first sight. Some time back, Lisfranc showed that the neck of the womb might, without inconvenience, and with ease be drawn down to the opening of the vulva, by seizing it on each side. Now, the uterus, in descending, draws with it the vesico-vaginal partition; it is then sufficient for an assistant to retain it in its depressed position, whilst the posterior wall of the vagina is pressed down towards the rectum, in order to give the operator the opportunity of bringing together the borders of the fistula almost as easily as he could external parts. The threads of the suture are then passed through by an instrument. Before letting go the neck of the womb, to allow it to re-ascend, any tension or dragging must be done away with by incision. The ends of the sutures are cut off on a level with the vulva. A piece of amadou is introduced into the vagina, to absorb the blood, and a catheter placed in the bladder, to give free vent to the urine.

The reporters conclude by remarking that this plan allows us to hope for the cure of vesico-vaginal fistulæ, which would be pronounced incurable by any other means. The size of the opening is no longer to be regarded as an insurmountable obstacle; nor is its deep situation, its longitudinal or oblique direction, or its irregular form.

[The editor of the Lancet, in reporting the above, observes that there is some likeness in principle between Jobert's operation and that practised by Mr. Fergusson for cleft palate, of which we gave an account in our last volume.]

Lancet, August 7, 1847, *p.* 161.

106. — *Treatment of Vesico-Vaginal Fistula, by Creosote.*—By Professor EMMERT.—A vesico-vaginal fistula, subsequent to artificial labour, having been treated with lapis infernalis seventeen times without any success, Emmert proceeded to remove the gangrenous scab produced by the last cauterization, after which he touched the fistular opening to a great extent by means of a pencil-brush immersed in creosote. The success was most surprising. The new scab was so firm, as to enable the patient to retain her urine the whole day, and to micturate without becoming moist. The detachment also occurred much later than after the application of other caustics, and when effected, the urine flowed in far less quantity from the somewhat diminished fistula. A second application of creosote, six days afterwards, induced a perfect cure of the fistula, and no urine has passed from it, during two months which has since elapsed. A fortnight after the last cauterization, Emmert found the fistula perfectly cicatrized, its previous existence being marked only by a bluish red streak, two lines in length. He therefore declares creosote to be the best application in such cases, the nitrate of silver being too feeble, and the concentrated acids too energetic in their action.—*Journ. für Chir. und Augenhéilk*, 1847. *Heft.* 4.

Monthly Journal of Medical Science, Aug 1847, *p.* 124.

107.—*Operation for Vesico-Vaginal Fistula.*—By Dr. PANCOAST.—The peculiarity of this operation consists in attaching the two sides of the abdominal opening firmly together, on the principle of the tongue and groove, so as to get four raw surfaces into contact, and thus increase the chances of union by first intention. The operation is thus conducted:—

Having exposed the orifice by a Charriere's speculum, from which the sliding blade is removed, the first object is to split up the posterior margin of the fistula to the depth of half an inch, with a sharp pointed bistoury; the edges of the other lip are then pared off, so as to bring it into a wedge shape, first reverting it with a blunt hook, and trimming off the vesical mucous membrane with the curved scissors, and then detaching the vaginal mucous membrane in like manner, to the breadth of three-quarters of an inch, along the whole extent of the lip. This is a difficult, but important, part of the process. The next object is to insert the raw wedge or tongue into the opposite groove of the lip of the fistula, and to retain them in apposition. This is accomplished by a peculiar suture, which the operator calls the "plastic." The threads are passed with short sharply-curved needles; a fine catheter is then passed, and cold applied to the vulva to moderate re-action. Subsequently sulphate of zinc injections are used.—*Medical Examiner*, May.

Provincial Med. and Surg. Journal, Sept. 8, 1847, *p.* 502.

108.—ON THE TREATMENT OF CHRONIC CYSTITIS, BY INJECTIONS OF NITRATE OF SILVER.

By Dr. R. L. MACDONNELL, Physician to the Montreal General Hospital.

[This disease, by whatever cause excited, is one of the most painful and miserable affections we have to deal with. In consequence of the difficulty of successfully treating it, the highest authorities have considered it the opprobrium of surgery; and if the practice advocated by Dr. Macdonnell bear the test of experience, that gentleman will have conferred a boon upon society. Dr. M. says,—]

Some years ago, M. Lallemand, the eminent professor of Montpellier, discovered accidentally, the great value of nitrate of silver in chronic inflammation of the bladder, and the utility of this plan was shown in a paper by Dr. O'Bryen, in the fourteenth volume of the *Dublin Medical Journal*. But this gentleman does not appear to have had any personal experience of its employment, and moreover, he confines his remarks to the use of the solid nitrate, the form preferred by Lallemand.

I am not aware that he has done more in this matter than introduce to the notice of British surgeons the views of the distinguished professor.

When a student of the Richmond Surgical Hospital, Dublin, I had an opportunity of seeing my friend and former preceptor, Dr. Hutton, (to whom I am indebted for much information that I have found valuable in my profession,) inject the bladder with a weak solution of nitrate of silver, but as this had (if I recollect rightly) but little effect upon the disease, the practice was abandoned in the hospital, nor have I since either seen it employed or heard of its being employed by any one but myself.

Having met with some cases of chronic cystitis that resisted general treatment, and bearing in mind the great success which attended the application of nitrate of silver in substance in the hands of Lallemand, I determined to give the remedy a further trial in the form of solution, and the success I met with has far surpassed my most sanguine expectations; I have now no hesitation in stating, that as far as pure uncomplicated chronic inflammation of the bladder is concerned, *that the opprobrium has been removed from surgery, and that we do possess a method of treatment followed by a greater amount of success than usually attends remedies employed in diseases of so severe and intractable a nature, and infinitely greater than attends the use of any remedy in a disease hitherto considered by the first authorities as incurable.*

[Several cases are given in illustration of the plan of treatment here advocated. The first patient had been affected with inflammation of the bladder for several months, and his health was much impaired in consequence. Dr. M. says,—]

When he first consulted me, fully one-half of the fluid passed from the bladder was pure pus; and after repose, a deposit of blood globules was found to intervene between this and the supernatant urine—the latter being highly alkaline, fœtid, and albuminous. Examined microscopically, it exhibited some scales of nucleated epithelium, a large deposit of triple phosphate in prismatic crystals, pus, and blood globules. There was no pain in the loins or along the ureters. He had a stricture of long standing about one inch from the orifice of the urethra. In addition to the above characters, the urine was frequently mixed with tenacious masses of lymph, varying in length from half an inch to an inch, and entangling a quantity of earthy matter, they frequently obstructed the passage of the urine through the stricture, and required to be broken up and squeezed through by the pressure of the patient's fingers.

Having dilated the stricture, so as to allow a large sized catheter (No. 11, Weiss) to pass, I determined to treat the disease by injections of nitrate of silver; and, accordingly, on the 17th of February, I injected into the bladder a lotion composed of eight grains of lunar caustic, two drachms of tincture of hyosciamus, and four ounces of distilled water.

The injection caused hardly any inconvenience, except that of inducing a strong desire to empty the bladder, which was prevented by compressing the penis, until the fluid had been in the bladder for about one minute, when it was allowed to escape. The next day, the patient stated that he was somewhat better, but the quantity of pus and blood was not, however, much diminished, and the flakes of lymph were more numerous and larger than before, Although he continued improving, yet, as the amendment was not as rapid as I anticipated, injection of the viscus was again resorted to on the 5th of March. On this occasion, the quantity of caustic was increased to sixteen grains in the four ounces of distilled water, and the hyosciamus was omitted. A decided improvement immediately followed; the frequency of making water was greatly diminished; instead of requiring to be voided every fifteen minutes, the bladder could retain its contents for more than two hours at a time, and the quantity of pus had greatly decreased. An injection of the same strength was again employed on the 28th of March, and with happy results. The urine could now be retained for three or four hours, was passed without pain or scalding, was clear and transparent, and, to the naked eye, free from pus; but when examined microscopically, a deposit of pus globules and some epithelial scales were perceptible. On the 18th of April, I repeated the injection, and since then he has been completely free from any symptoms of his troublesome disease; he has resumed his former mode of life and pursuits, and has been subject to various changes of temperature whilst travelling, without experiencing the least return of his former symptoms.

[A second patient had severe symptoms, for which he had been unsuccessfully treated for three years:—]

On examination, the urine was found to be abundantly mixed with pus (in an eight-ounce phial there was an ounce and a half of pus and mucus,) with a large quantity of blood globules, highly ammoniacal in odour, albuminous, and on being subjected to a microscopical examination, it presented an abundant deposit of triple phosphate in prisms, and epithelium.

In this case I commenced at once with an injection of sixteen grains of nitrate of silver in four ounces of distilled water. The immediate effects were the disappearance of the pain which had been constantly present for three years; the urine was passed without any heat, scalding, or uneasiness; and the necessity for emptying the bladder became less frequent; the quantity of pus was much diminished, and no more blood was observed in the deposit, and his nights were passed in ease and comfort.

About a fortnight after, the bladder was again injected with the same quantity of the solution of the nitrate of silver, and the improvement which followed was equally remarkable. The urine can now, August 27th, be retained for nearly the usual length of time; it contains barely a trace of pus, and is voided without the slightest pain. His nights are spent in comfort, his strength has greatly increased, and he has gained flesh. Finding himself so much improved, he has gone to the country for change of air to expedite his cure. Even should some of the symptoms return, owing to the suspension of the treatment, I have no doubt they will quickly disappear, after a third injection of the caustic is had recourse to.

[Another case was that of a man who had been affected with paralysis from injury. When the power over the limbs was restored, the urine still contained a large quantity of pus, and occasioned great pain and scalding in passing.]

January 3rd. He was ordered the following mixture:—

℞. Infus. buchu, ℥vss.; tinct. buchu, ℥i.; bals. copaibæ, liquor. potassæ. tinct. hyosciam. āā. ℥ss—one ounce three times a-day.*

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* This is the prescription I usually employ in mild forms of the disease. I have tried extensively the pareira brava, so much lauded by Sir Benjamin Brodie, and have not experienced the same success from its employment. I have seldom used the uva ursa, as my practice is to resort to injections in cases which do not speedily yield to the above remedies, and in cases in which various plans of treatment have already failed in the hands of other practitioners.

7th. The quantity of pus had diminished to about one-third, and he was directed to continue the use of the medicine.

21st. As the quantity of pus had not perceptibly decreased since last report, I determined to employ injections of nitrate of silver, and as the disease had received a notable check from the internal remedy, I did not consider it necessary to use a stronger solution than one grain to the ounce.

22nd. The urine was much clearer, and the deposit of pus was less by one half than previous to the injection, and he could retain the urine for two hours.

28th. The bladder was again injected, and next day no deposit was exhibited, and the urine was almost as clear as natural.

This man, soon after the last report was taken, was attacked with maculated typhus, and passed through the disease without suffering the slightest inconvenience from the affection of the bladder; and throughout, the urine exhibited a healthy character, even when examined microscopically.

In the foregoing observations, I have made no mention of the method of injecting the bladder which I have found most efficient. I will now make a few practical remarks on the operation. The patient being placed either in the erect position or on a sofa, a gum-elastic catheter, about the size of No. 9 or 10 (Weiss,) is introduced, and water at the temperature of 98 deg. F., is injected through this into the bladder, by means of a caoutchouc bag, or what I prefer a syringe, with a "three-way valve," by which the fluid can be drawn back from the cavity if necessary. After the bladder has been completely cleansed of any fœtid urine and mucus which may be contained in it, the solution of the caustic, being heated to the same degree, is to be introduced in a similar manner, and allowed to remain there for about one minute, care being taken by compressing the urethra to prevent its being forcibly ejected by the violent straining that is certain to be induced. The quantity of water or solution should never exceed four ounces, for though the bladder in its healthy state is capable of containing nearly a pint and a half of urine without being over-distended, yet as the quantity it is capable of retaining in severe chronic inflammation seldom exceeds a few table-spoonfuls, the bladder accommodates itself to its diminished contents, and gradually becomes smaller, and consequently a large injection would act injuriously in two ways—by over-distending the organ, or by passing up into the ureters. In fact, we find it unnecessary to use a larger quantity of the solution than I have mentioned, for it requires some address to introduce even that amount without resorting to force. The patient is then ordered a warm bath, and should the urine become bloody or mixed with shreddy concretions, he should use frequent fomentations and anodynes. But these symptoms seldom last for more than a few hours, and our patient should always be informed that such consequences are likely to be the immediate effects of the operation.

My patients have not suffered from retention of urine, which it appears frequently follows the use of the solid nitrate in the practice of Lallemand, nor have they had any inconvenience which was not readily allayed by an opiate.

The advantages which I consider the solution of nitrate of silver possesses over that substance in a solid form are—first, that we can employ it of various strengths, from one to four grains, or even stronger if necessary; 2ndly, we are certain that the application comes in contact with the entire diseased surface; 3rdly, we are also satisfied that it does not act more violently on one part than on another; 4thly, it is more readily employed by an inexperienced operator; and above all, it cannot possibly be attended with any risk, from the apprehension of which it is not easy to divest the mind, when using the *porte caustique* of Lallemand, and together with the above advantages, it has also this to recommend it, that it will at least be found equally successful.

The foregoing observations apply altogether to *severe chronic inflammation of the bladder;* acute inflammation and mild cases of chronic catarrh of that organ are manageable by other means, to which it is unnecessary to allude.

In the treatment of these cases, we derive great assistance from the microscope, for long after the naked eye fails to detect pus or blood in the urine, these fluids are recognizable by the microscope, and so long as they are present, our treatment should not be relaxed.

I have intentionally avoided alluding to the general treatment of chronic cystitis, and have omitted some other practical points, to which I shall probably direct attention at some future period.—*British American Journal.*

Dublin Medical Press, Oct. 6, 1847. p. 215.

109.—ON THE GENERAL TREATMENT OF LITHOTOMY PATIENTS.

By J. F. South, Esq

[The following is an abstract of the practice pursued at St. Thomas's Hospital in the management of lithotomy patient. For ten days or a fortnight before the operation he is kept in a small and quiet ward, under the eye of an experienced nurse. His diet is attended to; his bowels regulated, and a hip-bath given if he has much pain: depletion is seldom practised. Temperate weather should, if possible, be chosen for the time of operating; and if the patient has been accustomed to drink gin, &c., it is only to be discontinued gradually, or not at all. Further:]

The day prior to the operation a dose of castor-oil is given, and the diet restricted to rice-pudding and milk, with plenty of barley-water or gruel, especially the former. If the motions are hard and lumpy, an injection of castor-oil and gruel is to be thrown up on the morning, but if not, the gruel alone suffices.

After the operation the patient is put to bed with his legs straight and close together, for the purpose of gently maintaining the edges of the wound in contact, and checking slight hæmorrhage. A napkin is passed around the pelvis just as it is put on an infant, and throughout the treatment this is carefully changed when wet by the urine passing from the wound. In the evening, or next morning, if there be no bleeding, a piece of lint folded on the end of the finger is introduced into the wound, and pressed up the depth of the perineum. It is changed each time the patient wets, and is continued until the healing is accomplished, with the intention of securing this taking place from the bottom, under which plan the formation of fistulous passages is a matter of very rare occurrence. "A handful or two of chamomile flowers thrown into a basin, are sprinkled with spirits of wine, well mixed, so as to be equally moistened, and then put into a thin flannel bag, and having been well heated on a warming-pan, are applied over the belly as hot as the patient can bear, on the evening of the operation-day, if there be no bleeding; and this is continued for a week or ten days." If the wound on the second day is swollen and no urine flows, no lint is introduced, but a bread-and-water poultice is applied until the swelling subsides and the water increases. Cold is not applied, and an opiate is rarely given. The diet for the first two or three days consists of farinaceous food and free libations of barley-water; and a little castor-oil is given on the third day. If there is pain in the belly, or sickness, however, these may usually be relieved by giving the oil a little earlier. About the third or fourth day urine usually passes by the urethra as well as through the wound, and in a week or ten days it flows through the natural passage alone, and then the wound is dressed with wax and oil spread on the lint, introduced as before. If the urine does not flow through the wound at first, and the patient becomes irritable and uneasy, the finger should be passed in to remove any obstruction which may be offered by a coagulum. If the patient flag, the resumption of his gin and water may be advisable. He should be kept in bed for some days after the urine has ceased flowing from the wound; and if the formation of a small sinus retard cicatrization, a piece of lint of corresponding size should be twisted up, dipped in a solution of sulph. cupr., and screwed up to its bottom; but generally the wax and oil-dressing suffices. In from three to four weeks the cure is completed, the diet having been in the mean time gradually improved, and porter or wine added if deemed necessary.

Med. Chirurgical Review, October, **1847**, *p.* **364.**

110.—*Comparison of Lithotomy and Lithotrity.*—By Chelius.—[After enumerating the various untoward circumstances which may attend lithotomy and lithotrity, Chelius goes on to say:]

If these various circumstances in lithotomy and lithotrity be compared in regard to their cause; to wit, the wound in lithotomy, and the injury of the bladder in lithotrity, it must be presumed that pain and nervous symptoms may be equally present in both, but their frequent repetition in lithotrity is of importance; that bleeding, wound of the rectum, injury to the peritoneum, which are very much to be dreaded in lithotomy, cannot happen in the modern practice of lithotrity; that infiltration of urine, so frequently fatal after lithotomy, is almost impossible in lithotrity; that phlebitis and peritonitis are observed not unfrequently after lithotomy, but very rarely after lithotrity, which also applies in like manner to the continuance of fistula; that, on the other hand, inflammation of the bladder, inflammation and abscess of the prostate are more common after lithotrity. Bruising or tearing of the mucous membrane of the bladder, as also breaking of the instruments in the bladder, is at the present time scarcely possible with the improved instruments.

Further, if lithotrity be considered in reference to the condition of the urinary organs, the age, sex, and constitution of the patient, and the nature of the stone, it follows, that a diseased change and swelling of the prostate, purulent catarrh, great sensibility and contraction of the bladder render lithotrity quite impossible, or considerably increase its danger. Although lithotrity was formerly considered inapplicable to children, and numerous experiments by Civiale, Amussat, Leroy, and others have proved its practicability in little children, yet, however, the result of lithotomy at this age is so favourable, and the employment of lithotrity so difficult, that lithotomy should undoubtedly be preferred. In advanced age, on the contrary, the results of lithotomy are far more unfavourable than those of lithotrity. (How does the author reconcile this with his statement, that an enlarged prostate contra-indicates lithotrity?) In females, the less difficulty in the introduction of instruments is compensated by the difficulty of keeping the bladder distended; but lithotrity, although lithotomy in woman is much more rarely fatal than in man, has this great advantage, that no incontinence of urine remains after it, an infirmity the importance of which in woman cannot be too seriously thought of. It must finally be remembered that, for very stout persons, who are always the most unfavourable subjects for lithotomy, lithotrity is far less dangerous.

If now, after the consideration, founded on experience, of the advantages and disadvantages of lithotomy and lithotrity, the particular cases in which the one or the other practice is specially indicated, be reviewed, it follows that lithotrity appears preferable—1, in small stones, or those of no great size; 2, where there are two or several little stones; 3, in stones of moderate size, and when they can be easily broken, and if in all these cases the bladder be healthy, or only in a trivial degree affected. These indications are important, when such cases occur in old persons, in females, or in very stout people. On the other hand, lithotomy is decidedly to be preferred; 1, in childhood; 2, with large and hard, and especially mulberry stones; 3, when there are several large stones; 4, when large stones entirely fill, or are completely locked in by a contracted and unextensible bladder; 5, in diseased prostate, or great affection of the bladder; 6, in very great sensibility of the bladder, so that the patient can bear neither its distension, nor the motion of the instruments; 7, with stones of which the nucleus, as for example, when it is a bullet or the like, cannot be destroyed by the lithotriptor. It is also not to be overlooked that, in the general employment of lithotrity, the patient should be subjected to it early, by which its results are more certain, and its use will become more easy and general. On the other hand, however, it must not be unnoticed, that under directly the same circumstances which are favourable for crushing, does cutting for the stone, if performed with ability, lose much of its danger.

[Mr. South, the translator of Chelius, observes:]

I do not propose to offer any opinion of my own as to the preference which should be awarded to lithotrity or lithotomy, as I have had little practical experience in regard to the former, and am therefore not qualified to give one. But I may be permitted to say that the results of the practice of lithotomy, both with gorget and knife, and by various operators on patients of all ages and under various circumstances, during the course of a long series of years at our hospital, have been so favourable, as to afford little cause for making it give place to lithotrity. I think it is proved that lithotomy, when properly conducted, is not the dangerous operation it is too commonly held to be; and it is no trifling advantage it possesses, that the patient is relieved at once, with a few minutes' suffering, sharp indeed it must be acknowledged to be, instead of being subjected to several operations, which the more frequent in their repetition, become, as generally admitted, greater in severity, and occasionally leave the necessity for resorting to the cure by lithotomy. I may here also add the testimony of some patients who have undergone both operations, that the suffering during lithotomy was less than in lithotrity, and that knowing both, they would, if needful, prefer undergoing the former. It is well, however, that we have the opportunity of employing lithotrity in cases where patients are too fearful to submit to the knife; but I am by no means sure that, under all circumstances, lithotomy is not at least as free from danger as lithotrity, and certainly more speedy as regards cure.

Med. Chirurgical Review, October, 1847, *p*, 366.

111.—*On the Comparative Value of Lithotomy and Lithotrity.*—By M. Sigolas.—[After a recent discussion on this subject in the French Academy of Medicine in which Velpeau and Amussat took part, M Sigolas requested permission to read a paper "On the choice of an operation." He proceeded to say:]

The choice of an operation in cases of this description was the real question at issue in the present debate. It was the only practical one, and the only one which the author intended to examine. The only general answer which could be made was of so very comprehensive a nature as to be entirely without value, and what M.

Sigolas merely proposed to himself was, to lay before the academy the opinions which had resulted from twenty years' observation. The conditions which rendered lithotrity absolutely impossible might be referred to the concretions, to the bladder, the urethra, or the prostate gland. With regard to the calculi, their size or their extreme hardness only might interfere with the operation: their number could not be considered as an objection, because each stone might be isolately crushed and removed in succession. As to size, M. Sigolas had crushed concretions of twenty-five and even twenty-seven lines in diameter; but this appeared to the author to be the extreme limit of magnitude of calculi to be destroyed by the act of the lithontriptist. The hardness of the stone had seldom proved an insurmountable obstacle to crushing, except when coupled with excessive volume. In such cases M. Sigolas had remarked that the stones were composed almost exclusively of lithic acid, and had formed fifteen or twenty years previously to operation. Phosphatic concretions were readily destroyed by simple pressure; and calculi of oxalate of lime yielded generally, without much difficulty, to percussion. The *bladder* interfered with lithotrity only by violent and too frequent contraction, by a shrinking of the walls of its cavity which left no room around the calculus for the action of the instruments; however, this could be looked upon as an obstacle only when the calculi were of a large size and of considerable hardness. Besides, in such cases much advantage might be derived by placing the patient in a warm bath, and endeavouring afterwards to prevent him from voiding urine, in order to distend the vesica as much as possible. Paralysis of the bladder in no instance became an obstacle to the operation; on the contrary, the division of the stone was more readily effected; and, although it was afterwards necessary to use mechanical means for the removal of the fragments, this was now rendered a very easy matter by the use of the improved instruments in the hands of all surgeons, and particularly with the assistance of injections. But the existence of lacunæ in the bladder was an anatomical circumstance most unfavourable to the safe performance of lithotrity; it might even altogether preclude the possibility of employing that method. The concretions being in some cases almost altogether incarcerated in these lacunæ, or the fragments becoming after the operation lodged in these cavities, lithotrity became always uncertain in its results, and sometimes impossible. Two years since, M. Sigolas had presented to the academy the history of an old man who was affected with a calculus lodged in one of those pouches; the case had terminated favourably; but, in another instance of the same sort, M. Sigolas had been obliged to have recourse to hypogastric cystotomy—an operation which was performed with the assistance of the ethereal inhalation, and which had a most happy issue. Tumours within the bladder rendered lithotrity difficult, but never absolutely impossible. Cystitis became an obstacle only by causing violent contraction of the bladder, and by rendering the use of instruments exquisitely painful. *Hypertrophy of the prostate*, now-a-days, constituted no insurmountable obstacle to crushing; and this was due to the introduction of curved instruments into that branch of practical surgery; *strictures of the urethra* constituted only a temporary obstacle, which might in a few weeks be readily vanquished. A professor of the school of Montpellier had proposed in cases of severe stricture to make an opening into the urethra behind the constriction, and to operate for lithotrity by introducing the crushing instruments through the incision. The commission of the academy had not sanctioned this practice; and M. Sigolas adopted entirely the opinion entertained by the commission, because a few weeks' perseverance might always permit the surgeon to overcome the difficulties presented by a stricture, however severe. The diseased state of the ureters, of the infundibula, or of the calyces might certainly diminish the chances of success of the operation of crushing a calculus, but did not in any way interfere with the surgical process. Lithotrity was easier in women than in men; and with regard to age, M. Sigolas had operated with success even in the most tender infancy, for instance, in a child aged twenty-three months, who had been presented to the academy. Thus the excessive size or hardness of the stone, its deep and tight incarceration in the vesical lacunæ, and the obstinate retraction of the bladder were the only absolute and insurmountable objections to the performance of lithotrity, and the only circumstances which rendered cystotomy necessary. But it did not follow, from the mere practicability of lithotrity, that it was proper to adopt that method of removing the stone. The mechanical possibility of an operation was separated by a wide chasm from the expediency of its performance. In this respect, lithotrity was submitted to the general rules of surgery, and the discrimination of the cases to which it might with propriety be applied demanded from the surgeon as much knowledge, tact, and prudence as any other surgical problem. M. Sigolas would now endeavour to separate the cases which required one method from those in which the other was indicated.

Taking into consideration the size of calculi, M. Sigolas recognized four sorts; the *small* concretions, the diameter being under six lines; he called *middle-sized* those of from ten to fifteen lines in diameter; *large*, those concretions of fifteen or twenty lines; and *very large*, those calculi of more than twenty lines in transversal diameter. All the small concretions should be, in M. Sigolas's opinion, crushed; the same might be said of middle-sized stones, were it not for certain conditions of mobility and of general health which might render immediate extraction a matter of imperative necessity, as for instance, an apoplectic predisposition, together with cystitis and frequent efforts of excretion. For large stones, again, lithotrity was preferable to cystotomy, provided the calculi were fragile, as recent concretions, particularly phosphatic, generally were, and if the state of the kidneys or ureters offered no counter-indication. As to the very large stones, a distinction should be established. If they were formed of phosphatic salts they might readily be crushed; but calculi of uric acid above twenty lines in diameter were usually of extreme density: their destruction required considerable time, and their angular fragments often occasioned in the bladder great irritation, and too frequently sympathetic excitement of the kidneys and digestive tube. In such cases M. Sigolas thought that cystotomy was safer, but it was not always in the power of the surgeon to persuade the patients to have it performed in place of the apparently singular operation of crushing. Calculi of oxalate of lime seldom acquired so considerable a size, and were destroyed without much difficulty; besides, they were always observed in very young subjects, and were very rarely attended with complications. The number of the concretions, if their size be small, should not prevent lithotrity; and it was of very uncommon occurrence to meet with several very large stones in the same bladder; but if such a case was observed, lithotrity would certainly not be applicable.

Obstinate inflammation of the mucous membrane of the bladder, attended with contraction of the viscus, constituted a counter-indication to crushing. The counter-indication was still more evident if the urine contained habitually pus or blood, or if an ulceration or an organic disease was recognised in the vesica. The frequent introduction of instruments would increase the local damage, and might even endanger the life of the patient. A tumour of an indolent nature within the bladder, not containing much blood, was not an absolute obstacle to crushing; but if the calculi were numerous or hard, cystotomy would be preferable. When lacunæ were present in the walls of the viscus, cutting would be almost always a safer plan of treatment than lithotrity; but disease of the prostate or strictures of the urethra should not cause this mode of destruction of calculi to be abandoned.

The various disorders of the kidneys, ureters, calyces, &c., were most unfavourable circumstances for the success of one or the other method; but if one of the two should absolutely be chosen, M. Sigolas would recommend cystotomy.

Sex or age constituted no obstacle. M. Sigolas had operated by crushing in twenty-six children, who all were cured with the exception of one, who was affected with caries of the humerus, and entered into Hospital St. Louis for the treatment of this malady. Cystotomy was afterwards performed by M. Guersant, and the child ultimately recovered. In several of these children, however, lithotrity was attended with much difficulty, and required great care and patience, chiefly on account of the narrowness of the anterior part of the urethra, and the comparatively great dilatability of the deeper portions of the duct, into which large fragments often became impacted.

In conclusion, M. Sigolas stated that to a first class of calculous patients, crushing might be advantageously applied; in a second class, cystotomy presented less peril, or was alone applicable; and to a third series, all operations should be set aside. The progress of lithotrity, and its growing popularity, enlarged daily the numbers who composed the first series at the expense of both others; and a day would most probably come when crushing would be used in almost all cases, and cystotomy applied only to a small number of exceptions.

Medical Times, Oct. 2, 1847, p. 629.

112.—*On the Disintegration of Vesical Calculi.*—Mr. C. **Phillips** addressed a memoir on the disintegration of stone in the bladder, by the combined effects of a galvanic and chemical current. His conclusions are as follows:—1. The disintegration is effected by the united action of a galvanic and a chemical current. 2. The galvanic current alone is insufficient. 3. By the chemical current we not only facilitate the solution of the stone, but we are able to wash out the detached fragments. 4. Under the influence of the two currents, prolonged for the space of thirty or forty minutes, the outer layers of the hardest calculi become friable, and are subsequently easily crushed. 5. The oxalate of lime calculi have, up to the present time, resisted the galvano-chemical currents.

For practical convenience, the author divides vesical calculi into those which are affected by acids, and those which are dissolved by alkalies. The alkaline current is made by the solution of seven grains and a half of potash, in eight ounces of distilled water; the acid is composed of twenty drops of sulphuric acid, to four ounces of distilled water: both may be used with impunity as regards the coats of the bladder. The description of the instrument is given, but is unintelligible without a plate.

Provincial Med. and Surg. Journal, Oct. 20, 1847, p. 581.

113.—*New Operation for Varicocele.*—M. **Velpeau**, in a clinical lecture, gives an account of the plan of operating for varicocele, by torsion, as devised by M. Reynaud, and modified and practised by M. Vidal de Cassis.

In the operation for varicocele, it is the object, not only to obliterate the veins of the spermatic cord, but also to raise the affected testicle, which, as is well known, sinks to a lower level than the other; for by so doing the danger of relapse is lessened. M. Vidal proposes to accomplish this end, along with the obliteration of the veins, by the plan he advocates. Although it is difficult to describe an operation in words, we shall endeavour to give a succinct description of the one in question. Two portions of silver wire, one double the thickness of the other, are threaded severally through a lancet-shaped needle: the operator then isolates, with his fingers, the vas deferens from the varicose spermatic veins, pushing the former backwards, whilst he draws the veins forward in a fold of skin. The larger needle, with the thicker wire, is now passed through the skin, between the vas deferens behind and the varicose veins in front. This being done, the wire is slightly bent, so as to give it a concavity, looking forwards. The veins are then released from the grasp of the fingers, and a fold of skin pinched up from over those vessels through which the second needle, with the finer wire, is passed, and thus the wire occupies a position anterior to that of the veins. The needles are introduced and escape through the same openings, which, hence, are but two in number, and consequently, the operation may be regarded as subcutaneous; and from their position, the wires embrace the dilated veins between them. All this having been accomplished, the wires are cut so as to leave about an inch projecting from each of the orifices made; and then, a very gentle movement of rotation and torsion is exerted on the greater wire. Now, it is easily seen that, in proportion as this torsion is made, the loop of wire in which the veins are engaged contracts in its dimensions, and so exerts a compression on the veins, and soon, these vessels, at first, only so compressed, become rolled around the thicker wire, like a rope round a roller, while the vas deferen remains intact behind. The more turns made, the higher is the testicle drawn up towards the abdomen, and thus the ascent of that organ is effected. The loose skin of the scrotum seems, also, to be a little rolled up, following the movement exerted on the spermatic veins by the torsion of the wires. A little circular pad is lastly placed on the skin between the two punctures which give passage to the wires; the ends of the wires are bent back over this pad, and twisted together by pincers.

Since this plan was devised, M. Vidal has operated on hundreds of cases of varicocele, and has never met with any accident, nor has had any failures or relapses. If such brilliant success has attended such practice, it is indeed worthy of the consideration of surgeons generally, and certainly deserving of trial. It is a very simple process, but very mechanical, and rather coarse in appearance; but on this account it should by no means be neglected, for as much may be said of many surgical manœuvres.

Lancet, July 24, 1847, *p.* 101.

114.—*On the Radical Cure of Hydrocele.*—By M. Chelius and Professor South.—Chelius acknowledges a preference of incision of the tunica vaginalis to its injection, which will certainly meet with no assent from surgeons in this country. He says—

It is not advisable to produce upon the testicle any irritation like that in the vaginal tunic. By incision, all the complications can be most distinctly made out, at the same time any existing intestinal rupture can be properly treated, the inflammation be more properly excited, and effect a more safe cure. The bleeding which occurs in this operation is easily stanched; the severe symptoms occurring after it are most commonly the result of bad practice. After the cut it is in most cases necessary to insert a half-unravelled piece of linen between the wounded edges of the vaginal tunic. Injections operate uncertainly, as the irritability of the individual cannot be previously determined. They act as violently on the testicle as on the scrotum; if a part of the injection be poured into the cellular tissue, which is possible, even with the greatest care and attention, very dangerous symptoms may arise therefrom; in the diseased state of the testicle, which cannot always be decidedly made out, injections are necessarily hurtful. The superiority of injections, to wit, that by their use the cure follows more quickly, and that the patient does not need to be kept quite so long, is of no value, as even after injection the cure is often longer protracted than after incision, and with the latter keeping so long quiet is not necessary.

Few surgeons, we imagine, who have witnessed the usual successfulness of so simple an operation as the injection of a hydrocele, will be disposed to adopt a procedure which requires the opening up the whole length of the tunica vaginalis, " care being taken that the testicle do not protrude, and if it should, it must be gently returned," and stuffing the wound with a " half-unravelled piece of linen." Mr. South speaks highly of the use of *Iodine*, so strongly recommended by the Indian practitioners and by Velpeau as the material for injection.

The injection of tincture of iodine diluted with water, I am convinced, by repeatedly practising it for some years, is the most effectual and least painful to the patient. Velpeau has the credit of introducing the practice, but I am informed by medical friends who have been in India, it has been long practised there (this is acknowledged by Velpeau and every one else,) and, if my recollection be not treacherous, without drawing the injection off again.

This mode I have adopted, making use of a very fine trocar and canula, drawing off the water, and injecting an ounce of fluid containing ʒij. tr., and ʒvj. w., and then immediately withdrawing the canula, to which the wound always clings very tightly, as the solution is very astringent. The patient most commonly suffers no pain, or at least a very trifling degree; and although on the following day the scrotum is a little reddened and rather firm, yet the patient is not thereby prevented from moving about with ease and comfort to himself. Indeed, I am informed that as soon as the injection is made the person walks away, and requires no farther attention. The scrotum, according to my own observation, increases a little, and becomes rather more solid for three or four days, and then begins to subside, and in the course of a fortnight the cure is completed without confining the patient more than two or three days, rather as precautionary, than that I really believe it necessary.

I have employed this treatment both in large and small hydroceles, merely injecting the quantity mentioned or a little less; and never either shaking the scrotum about or distending the cyst by repeated injection, and afterwards drawing it off, as Velpeau practices and recommends. I am quite sure whoever employs the iodine injection as I have mentioned, will not treat a hydrocele for the radical cure by any other means.

Medico-Chirurgical Review, Oct. 1847, *p.* 369.

SYPHILITIC AFFECTIONS.

115.—ON SYPHILIS.

By J C. Christophers, Esq.

[Mr. Christophers has been in the habit of recording his experience of syphilitic cases for some years: and he has been able to observe a considerable number of cases for years after their treatment. He has come to the conclusion that syphilis, in the present day, is a disease which, even without treatment, produces few symptoms of severity ; and which, itself tending to its own cure, is very amenable to rational treatment. In a case of real chancre, unless destroyed by excision or caustic before the fourth day, secondary symptoms will certainly supervene, whether the treatment have been 'mercurial,' or 'simple:' and the severity of the secondary symptoms is in proportion, not to the number nor to the severity of the primary sores, but to their duration. If this be true, the best treatment is that by which the primary sore is most rapidly healed. Mr. Christophers says respecting treatment:—]

It has been observed that some sores are very slow to heal under simple treatment, but that immediately the system is brought (though ever so slightly) under the influence of mercury, they rapidly progress towards a cure. Now here I believe the advantageous use of mercury stops; pushed beyond this, it becomes a positive evil. It is the practice of the mercurialists to keep up a mercurial action long after the primary sore is healed; to use their own phrase, till all induration has disappeared; and this process often extends over a period of weeks and months, and with the view of preventing the supervention of secondary symptoms. Now what will cure an action will not always cure a disposition. Further induration will sometimes continue after the longest mercurial course, and will remain so long as the individual exists, and yet he may not be submitted to a succession of attacks of secondary symptoms extending over that period. Again, induration may accompany a non-syphilitic sore, of which inoculation has furnished examples: further, how are we to discriminate, after the sore is healed, between the chancrous induration and that induration produced by simple effusion into the surrounding textures, an effect of ulcerative inflammation and consecutive cicatrization.

Where mercury has done most harm, I have observed it to be in a ratio with the duration of the period the system has been kept under its influence, rather than with the quantity administered—i. e., a large quantity, rapidly introduced, will do less mischief than a lesser quantity, extended over a longer period of time.

In acute diseases, wherein mercury is often given in a truly lavish manner, it is rare to see permanent ill effects follow; and though Dr. Scott has observed, that during his whole residence in

India, where mercury is so commonly, so largely, and so injudiciously given for affections of the liver, he never saw a single instance of what has been termed cachexia syphiloidæ arise, when syphilis was out of the question. The fact I believe to be, that in the cases alluded to by Dr. Scott, mercury was given in large doses; but the constitution probably was not kept under its influence for weeks and months together; it is fair to assume it was given till ptyalism was produced, and then altogether suspended. Had it been continued beyond this, doubtlessly it would have produced the cachectic effects so justly attributed to it.

Recognising these principles, I have treated cases of syphilis on a plan differing from both the mercurial and simple systems, and in every case it has succeeded well. Having first convinced myself, by the aid of inoculation, (I am speaking of cases in which the sore has existed beyond the period assigned to it as a local disease,) that it is a genuine chancre I have to treat, I prescribe calomel, in one or two grain doses, till the gums give the slightest evidence of its effect. This accomplished, I suspend it at once, and begin with small doses of the hydriodate of potass, with sarsaparilla; and it is a curious fact, that if the gums are made slightly sore with mercury, that action will be maintained in them by very small doses of the hydriodate, though it does not produce that effect generally, if mercury have not been given.

The object in giving the mercury is speedily to heal the primary sore; the object of the iodine and sarsaparilla, to put the system in the most favourable condition to encounter the secondary affection that must (in some shape) inevitably ensue."

Lancet, Aug. 14, 1847, *p.* 173.

116.—*On the Comparative Effects of Bromide and Iodide of Potassium in the Treatment of Secondary Syphilis.*—By Dr. J. C. Egan, Surgeon to the Westmoreland Lock Hospital.—[Some time ago, Dr. Egan's attention was directed to preparations of bromine as a substitute for those of iodine, which had attained a very high price. His experiments led him to the conclusion that the bromide of potassium is comparatively inert. He says,—]

To form anything like a correct estimate of its effects, I selected for trial patients similarly affected with those whom I had been accustomed to treat with the iodide of potassium, and have drawn up a statistical table of the results, which has enabled me to institute a comparison between the two modes of treatment. The varieties of disease which I have arranged into four classes were as follows:—

1st. The eruptive form, comprising the papular, rupial, and scaly varieties.

2nd. Affections of the throat, comprising increased vascularity, ulceration at back of pharynx, and excavated ulcer of the tonsil.

3rd. Osteocopic pains.

4th. Ulcers of legs.

In the first or eruptive class there were eighteen cases of the papular variety, of which a cure was accomplished in fourteen after a protracted period. In the remaining four it appeared to exert no effect, and the iodide was eventually substituted.

In the two cases of rupia, one patient died, worn out by frequent epileptic attacks, in whom the bromide had been used with little benefit for six weeks. In the other, no perceptible alteration was manifested in the symptoms which presented.

In the scaly variety it failed in one; the other recovered after a lengthened period, desquamation appearing to be the result more of time than the operation of medicine.

In the second class, consisting of affections of the throat, its use was attended with success in two cases of increased vascularity in which it was employed: on one case of excavated ulcer of the tonsil (the only one from the rarity of this form of disease in which I had an opportunity of testing its effects,) it produced no beneficial result; and out of six cases of ulceration of the pharynx, its protracted use was only productive of advantage in three.

In eighteen cases of syphilitic pains, success followed in fourteen instances; in the remaining four the iodide was resorted to, to effect a cure. During its administration in this form of the disease, I was frequently obliged to have recourse to anodynes, in order to render the patient insensible to pain, over which for a considerable period it appeared to exert no salutary influence.

In the fourth class, comprising ulcers of the lower extremities, which might be more properly termed syphilitic cachexia, it produced a beneficial effect in two, but failed in three. The minimum dose employed in these several instances was five grains, the maximum ten, three times a-day, beyond which I found it impossible to push it; the vehicle selected for its exhibition was water, with the addition of a little simple syrup.

In taking a restrospective view, extending over a period of four years, of the cases of secondary and tertiary syphilis treated with the iodide of potassium, and those just detailed in which the bromide was substituted, I think the former line of treatment must strongly recommend itself to every impartial mind for the following reasons:—

Firstly. The iodide exerts in the majority of instances an instantaneous, decided, and always a beneficial action, contrasted with the bromide, whose effects are slow, unsatisfactory, and frequently unsuccessful.

Secondly. The iodide seems to act favourably, not only upon the disease for which it is prescribed, but also upon the constitution in general, by increasing the appetite, improving the powers of digestion, thereby enabling the patient to gain flesh while under its influence, whilst the bromide not unfrequently produces nausea, impairs the appetite, and deranges the digestive organs.

And lastly, every form of secondary and tertiary syphilis (with the exception of iritis) is amenable to the action of the iodide, whilst that of the bromide is extremely circumscribed. A very general impression prevails among the profession, that in order to obtain favourable results from the exhibition of the iodide of potassium, it is requisite to administer it in large doses. From the experience which I have had in its employment in the Lock Hospital, I should say that far more desirable consequences are likely to ensue from moderate than excessive doses; it has seldom occurred that every wished-for indication was not fulfilled by five grain doses, and in no instance did it appear necessary to increase it further than ten grains thrice a-day.

The vehicle most commonly selected for the exhibition of the iodide of potassium, which, by the majority of writers, is considered materially to assist its therapeutic qualities, is some preparation of sarsaparilla, usually the compound decoction. From repeated experiments, I feel convinced that the beneficial effects of the iodide are in no way assisted by these preparations, as to the utility of which, either directly or indirectly, reasonable doubts may be entertained.

As it may be a matter of considerable importance to detect the adulteration of the iodide with the bromide of potassium, my friend Mr. Emerson has kindly furnished me with the following simple method of ascertaining the admixture. Take of the suspected salt one drachm, dissolve in two ounces of distilled water, of sulphate of copper two drachms, dissolved in the same quantity of distilled water, mix, and put both into a clean oil flask, and boil till the vapour from the flask will not produce any effect upon a piece of paper, to whose surface a solution of starch has been applied, the fluid remaining in the flask, if impure, will immediately, on the addition of a few drops of a solution of chloride of lime, give the usual orange colour of bromine, which will be rendered more apparent by the addition of a little starch. Bromide of potassium is not precipitated by sulphate of copper, in which it differs from the iodide.

Dublin Medical Press, May 19, 1847, *p.* 306.

117. — *Suppurated Bubo Treated by Injections.* — By M. JULES ROUX.—The following is a summary of a memoir lately published by M. Jules Roux, of Toulon, in the "Archives Générales de Médecine," on a new and hitherto very successful mode of treating suppurated buboes, which consists in injecting into the cavity of the abscess, after the pus has been removed by a subcutaneous puncture, one of the following preparations:—

1. Tincture of iodine, composed of iodine, 30 grammes; alcohol, 100 grammes.

2. Tincture of iodine of the codex, composed of iodine, 8 grammes 33 centigrammes; alcohol, 100 grammes.

3. The above, No. 2, diluted with twice its weight of distilled water.

4. Alcohol at 30°.

5. Alcohol, diluted with twice its weight of distilled water; solutions of 50 centigrammes of nitrate of silver in 30 grammes of distilled water; of 1 gramme of corrosive sublimate in 100 grammes

of water; and, lastly, one of common salt, were also used in a few cases, but they did not answer so well as those of which iodine formed the basis. The fluid having been injected, its evacuation is facilitated by pressing the tumour, a small quantity, however, remaining within the cyst being immaterial. The operation is said to occasion great pain, but has never given rise to any unfavourable symptom. Sometimes a small puncture may be necessary to evacuate some freshly-formed pus; but, generally speaking, the tumour subsides, and the parietes of the abscess become speedily agglutinated together.

M. Roux states that the quantity of either of the above fluids never exceeded forty grammes for an injection, and that all the patients submitted to this method have undergone a general mercurial treatment.

The cases in which injections may be resorted to are those in which the bubo is beneath the aponeurosis, and its parietes are of sufficient consistence that we may anticipate their agglutination; those in which they are contra-indicated are where the tumour is superficial, as in that case a cure is more easy to be obtained without resorting to an injection; and, secondly, where the skin is red, thin, and about to ulcerate.

The results obtained by M. Roux are as follows.—Out of seventy cases thirty-five were cured without any fresh formation of matter, in, on an average, seventeen days. In seventeen there was a re-formation of pus; the average date of recovery being twenty-two days. In eighteen cases there was either partial or extensive ulceration over the surface of the tumour, in eight of which the actual cautery was necessary. Taking the whole seventy cases, the mean duration of treatment was twenty-one days.

Medical Times, Aug. 7, 1847, *p.* 473.

118.–*New Operation for Phymosis.*–By Dr. W. Hargrave, Surgeon to the City of Dublin Hospital.—[In operating for syphilitic phymosis, Dr. Hargrave recommends the incision to be made as close and as parallel to the frænum as possible. He says:]—This plan is infinitely to be preferred to the one in the opposite direction, or along the sides of the prepuce, (which is too often adopted,) for the following reasons:—1st. The diseased or ulcerated surfaces of the glans are most readily brought into view, and their characters ascertained for the requisite local and constitutional treatment. 2nd. No deformity results from the incision, as the prepuce can be either retracted or drawn forward, preserving its normal appearance: while if the other method is selected—*i. e.*, slitting up the prepuce indifferently, so as to expose the ulcer, the deformity is always great, the penis presenting a triple termination when the incisions are healed; the glans may then be named a *glans alatà*, the flaps of the prepuce forming the winged appurtenances which will then call for a second operation, unless that they have been removed immediately after the primary one of slitting, which is always a very painful proceeding.

Cloquet was the first who proposed this operation, which is a valuable addition to operative surgery.

Dublin Medical Press, August 25, 1847, *p.* 113.

119.—*On the Reduction of Paraphymosis.*—By J. F. South, Esq.—The reduction of paraphymosis is often exceedingly difficult, and always excessively painful, so that frequently a strong-minded person will scream like a child from the pain. I have, however, scarcely ever known it fail, and hardly remember it needful to perform any operation with the knife. It requires, however, great patience and perseverance, often for the space of half-an-hour, at the very least, and I have often succeeded when the prepuce had been everted six or eight days, and it might have been supposed that the adhesive inflammation would have prevented the replacement of the skin. Although the diminution of the bulk of the glans, by pressing the blood as completely as possible out of it is a very important part of the proceeding, yet squeezing out the fluid effused in the prepuce is no less so; and unless both be done, there is a great hindrance to the replacement of the skin. I therefore always first squeeze gently but steadily, for a few minutes, the prepuce, till it becomes somewhat flaccid, and then firmly press the whole glans with the thumbs of both hands, whilst the two forefingers grasp the penis behind the prepuce, like a collar, and draw it forwards, whilst the thumbs empty and thrust back the glans. Or if I do not so succeed, I grasp the whole penis with my left hand, making the thumb and forefinger a collar behind the inverted prepuce, which thus rests against it, whilst, with the thumb and fingers of the other hand, the glans is emptied, and thrust within the constricted ring, by pushing first one part and then another of the corona glandis till it gets beneath the constricting band; and this done, the rest soon follows. Immediately that the least bit of the corona has been thus got in, that next it must be poked in (no better expression than this can be used) with the finger end, and so the next, until the greater part has been thus returned, and the reduction is speedily completed. It must, however, be remembered, that directly the return has commenced, the poking must be continued without intermission, as otherwise the whole proceeding will have to be repeated, as, on the least cessation, the glans again fills, and protrudes. If the everted prepuce do not relax by pressure, the constriction being so great that the effused serum cannot be dispersed easily upon the body of the penis, it will be found very convenient to make a few punctures through the skin, by which the squeezing presses out the fluid, and then the prepuce is rendered flaccid. It is always desirous to try this mode of proceeding, even if a part of the prepuce should have become gangrenous, as this is often merely superficial, and the replacement puts a stop to its progress. After the reduction, it is well for some hours to wrap the penis up in linen, and to keep it constantly wet with cold water, for the purpose of preventing the disposition to erection, and reprotrusion of the glans, but after that time, a warm poultice will be most agreeable to the patient's feelings, and most favourable to the dispersion of the inflammation. The soreness, however, will commonly continue for many days, proportionate to the severity of the constriction and its duration. No attempt at retraction of the prepuce, to see what is going on inside, should be made for several days, or the mischief will probably recur.

Medico-Chirurgical Review, October, **1847**, *p.* **374.**

120.—*On a Premonitory Symptom of Salivation.*—By JOHN TOMES, Esq., Dentist to the Middlesex Hospital.—In salivation produced by mercury, the effect is first discernible upon the gums. Some hours previous to the coming of the metallic taste, and to the fœtor of the breath, and also to the soreness and discomfort which mark the influence of mercury on the system, the gums show indications that these conditions are about to appear—in fact, that the patient will in a few hours be salivated. The state of gum I am about to describe is, in fact, a premonitory sign of ptyalism, for should it appear, and the mercury be immediately discontinued, yet salivation will come on. The sign is this:—the adherent portion of the mucous membrane of the gums assumes an opaque white colour, contrasting strongly with the non-adherent portion, which preserves its natural hue or becomes more red. The free edge of the gums is moveable, but that part which lies over the edge of the alveoli is firmly tied down to the periosteum; and as the edges of the alveoli present a feestooned line, so the whitened mucous membrane presents in a corresponding festooned line. Again, where the mucous membrane is loosely reflected from the gum to the cheek, the natural colour is preserved. The whiteness of gum is produced by an increased secretion of epithelium, which from being thicker and more opaque renders the colour given by the vessels to the subjacent tissue less apparent.

The surface of the mucous membrane when deprived of epithelium is studded over with innumerable small conical elevations or papillæ. The thickened epithelium is readily rubbed off the tops of the papillæ, while it retains its full thickness in the hollows between them; thence, if closely inspected, the gums will not be seen to present a uniform white hue, but a mottled aspect; and this because the epithelium is thin over the papillæ and thick between them, and therefore more colour will show through at one part than at another.

With the increased thickness there is a decrease of tenacity between the scales that form the epithelium, for the surface may be much more readily rubbed off than when in its natural state.

This curious and useful premonitory sign of coming ptyalism was, I believe, first noticed, and its value pointed out, by Mr. Corfe; at all events, he first of all drew my attention to the fact, and I am not aware that it has been described by any author. Since, however, Mr. Corfe mentioned the result of his observations as to the constancy of the sign, I have verified for myself its presence in all cases of salivation that have come under my notice, and from these I have written the foregoing account.

If you would make use of this indication in your practice, it will be necessary that you should carefully note the state of the gums at the time the mercurial treatment is commenced, for it is quite possible that other agents may produce a similar state of gum, and that such may exist previous to the exhibition of mercury.

Medical Gazette, Oct. 1, 1847, *p.* 573.

121.—*On the Treatment of Salivation.*—By H. Smith, Esq., late House Surgeon to King's College Hospital.—If excessive salivation has set in, with all its concomitant evils and annoyances, we must use those remedial means which our art has afforded us, with the view of neutralizing the poison both locally and generally; and they must be employed with more or less vigour, according to the nature of the case.

Various remedies are used. Dr. Watson, in his lectures, speaks highly of brandy and water, and I have in more than one instance employed it with benefit; a good preparation is a mixture of alum and chlorinated soda: ʒij. of the former with ℥j. of the solution of the latter to ℥viij. of water; but the strength must vary according to circumstances; if there is much ulceration, a strong solution will give unnecessary pain. Oak-bark, nutgalls, and tannin are also serviceable remedies, and particularly the latter, as it is a powerful astringent. If there is inability to open the jaws, and the mouth is clogged with a viscid secretion, the lotion should be injected with a syringe, and warm water should be frequently thrown in, in the same manner to clean this nasty stuff away. But local measures alone will not suffice: the constitutional symptoms, which are severe and in some cases alarming, should be attended to, and we must endeavour to get the poison excreted from the system by the various depurative organs.

[Mr. Smith, after just referring to the use of tartar emetic, acetate of lead, and opium, which he thinks may sometimes be useful, observes:]

There is one remedy, however, which appears to possess considerable influence in removing salivation, and one which I think is not universally known; I mean sulphur; by referring to Mr. Colles's works I find that he recommended it several years ago. In what manner it acts we are not able exactly to tell, but it is highly probable that it enters into combination with the mineral, and forms a sulphuret, which is an inert preparation; moreover, it acts as a purgative, and also goes off by the other secretions, particularly the skin. I have had opportunities of using sulphur for ptyalism, and I have seen it used by others, and certainly, in the majority of cases, decided benefit occurred. The only objection I have noticed, is the fact that it sometimes irritates the bowels very much. I used it in a case lately, when I was obliged to suspend it for this reason. I would strenuously recommend it to those who may meet with a troublesome case of salivation. Mr. Allison has found out that chlorate of potash has a most beneficial influence over mercurial salivation, and he has tried it in numerous cases.

Medical Times, June 5, 1847, p. 293.

DISEASES OF THE SKIN.

122.—ON PSORIASIS DIFFUSA.

By Dr. Bellingham, Dublin.

[As an example of this disease, Dr. Bellingham gives the case of a young woman of 19, who, when she came under observation, had been affected nine months. She complained only of itchiness in the parts affected, and slight pain in the epigastric region. Dr. B. says:]

On examination, both lower extremities, from the knees to near the ankles, present numerous elevated scaly patches of large size and irregular outline; upon the anterior surface of the legs these are continuous with one another, and form a coating to the part with fissures and cracks in several places; the colour is a dirty yellow, evidently owing to the recent employment of some ointment. Upon the front of the thighs a number of smaller patches are seen which are distinct from one another, have a circular shape, and are covered with thin white opaque scales. The forearms, from the elbows to the wrists, particularly upon their outer aspect, are covered with a similar eruption to that upon the legs, while above the elbows small distinct circular patches only are seen. Upon the chest and abdomen the patches are fewer and smaller, and quite distinct from one another; they vary in size from that of a pin's head to a split pea, the very smallest resemble papillæ, being red and slightly elevated without any scale; those next in size have a little white scale in the centre, and those still larger are coated with thin silvery opaque scales, they are all slightly elevated, their shape is nearly circular, and the intervening skin is perfectly healthy.

The scalp is also extensively engaged, its whole surface being covered with a thick coating of dirty yellowish white crusts, in some places of considerable thickness, but without any discharge. She states that the scales are frequently detached from the limbs, and that she suffers from a troublesome feeling of itchiness in the parts. There has never been any discharge from the eruption.

She was directed to be bled to 16 oz.; to take some purgative medicine; and to have a warm bath. Followed by Donovan's solution in the dose of ten drops three times a day.

March 7th. The medicine has been vomited, and was ordered to be discontinued.

10th. The liquor potassæ, in the dose of twenty drops, three times a day was directed. A lotion to be applied to the affected parts, consisting of one drachm of the sulphuret of potash to 8 oz. of water. The hair to be cut close, and the scalp to be brushed over with the liquor potassæ, followed by a poultice.

17th. The scales have been detached from the greater part of the surface of the body; from the head also they are separating.

She continued to use the medicines, with a warm bath occasionally; the scales all became detached, and the skin underneath assumed a healthy appearance, while no new patches became developed; and April 9th, a month after she commenced the use of the liquor potassæ, she left the hospital perfectly well.

The patient was directed to continue the use of the medicine at home for a short time, which she neglected to do, and about three weeks afterwards she presented herself at hospital, some fresh patches having made their appearance upon the arms, legs, and body. She was made an extern patient, and recommenced the liquor potassæ in the dose of thirty drops three times a day, which she continued to take until the first week in June, when the eruption had entirely disappeared.

About a month subsequently, some small patches of psoriasis again made their appearance, but she soon afterwards discontinued her attendance at the dispensary, and has not since been seen.

Clinical remarks.—Psoriasis has so many characters in common with lepra that many pathologists of the present day have combined them under the same head, and make them but varieties of the same disease. This seems to be a natural arrangement, for almost the only distinction between them consists in the shape of the patches, which in lepra are circular, but of an irregular form in psoriasis; the treatment of both is pretty nearly the same. In the present cases the smallest patches had the characters of lepra —viz., circular patches of smooth laminated scales surrounded by a reddish and prominent circle; while the larger patches were evidently formed by the union of the smaller, which in some places had formed a crust covering great part of the limb, the surface being rough, with fissures, and on the detachment of the scales leaving a red shining surface.

All writers upon cutaneous diseases agree as to the rebellious nature of the chronic forms of the scaly diseases of the skin; no matter what mode of treatment is adopted, or what remedies are employed, they usually resist them for a long time, or if removed the eruption has a tendency to reappear; hence their treatment is more often measured by months than by weeks. The two foregoing cases were very severe examples of the disease—in fact, the first would more properly come under the head psoriasis inveterata than psoriasis diffusa; yet a month was quite sufficient to remove every trace of the disease. In both cases, however, it will be observed the eruption reappeared after a time, owing probably to the patients not having persisted in the use of the remedies for a sufficient period after the disappearance of the eruption; but in each the relapse was much milder than the original attack.

The liquor potassæ is an old remedy in the scaly forms of cutaneous disease; of late years, however, it seems to have fallen in some measure into disrepute, probably undeservedly so; its administration in the foregoing cases was followed by decidedly beneficial results. It is true that a relapse occurred in each case, but we must recollect that one of the characters of psoriasis is its tendency to recur in the same part, no matter what may have been the treatment adopted; the liquor potassæ, however, possesses this advantage—that it is less likely to have an injurious effect upon the patient's constitution, if it has to be continued for any length of time, than some other remedies ordinarily employed in this morbid state.

Dublin Medical Press, Aug. 18, 1847, *p.* 97.

123.—*On the Treatment of Psoriasis, &c.*—By Dr. Romberg, Berlin.—In psoriasis inveterata, Dr. Romberg found the aqua picea, or aqua picis liquidæ, to effect a cure when all other means failed. The aqua picea was prepared by pouring a quart of cold water over a pound of pitch, and leaving it to stand for twenty-four hours in a cool place, and a "beer-glass" (about four ounces?) of the water filtered through paper, is to be taken every morning fasting, and the parts affected to be bathed with it twice or three times a day. Its use may be continued for months, the only apparent effect resulting being slight diuresis.

[This is an old English remedy, and has been used in ichthyosis.]

British and Foreign Review, July, 1847, *p.* 48.

124.—*On Psoriasis.*—By Dr. S. Wright.—Psoriasis is nothing more than a subacute inflammation of the derma. As first manifested, the affected parts are warmer than natural, and there is felt a prickling or tingling sensation. Whether this be dependent upon a change in the nervous or circulatory function of the parts, it is not possible to say: the first change appreciable to the senses of the observer is in the circulation. A blush of bright redness appears, which after a time becomes duller. This is the state of congestion. To this succeeds more sensible heat and coloration, with slight pricking or itching pains. It is difficult to avoid scratching, but this, however slight, is followed by smarting or direct pain. The inflammatory condition has now supervened. In consequence of this, comes a desiccation and destruction of the epiderma; and the vascular action underneath being morbidly vigorous, the epiderma is reproduced at an amazing rate. Several crops are thus furnished in succession, and, accumulating, give to the patches the dirty white, rough, and fissured appearance you saw in the case I allude to. The chops or fissures occur as consequences of the scaly epidermal products not being disposed with uniformity. Their size, and the disposition to be more in one place than in another, render it impossible that there shall not be irregularity in the lines of their distribution.

In the process of spontaneous recovery, or of cure—for psoriasis is capable of both—the first change is a lessening of the inflammatory or congestive action. The scaly patches lose their areolar blush, and the coloured ones grow lighter. The epiderma, therefore, becomes more persistent; and when removed, naturally or by accident, the exposed parts have less redness and sensitiveness than in the more active stages of the disease. This improvement by degrees goes on, until at last the circulatory function of the parts becomes perfectly normal, and there is no more desquamation than consists with the ordinary " wear and tear" of the body.

[As an illustration of the treatment of psoriasis, Dr. Wright relates a case in which the following medicines were prescribed:]

℞. Infusi gentianæ, ℥vijss.; liq. potassæ, ʒj.; liq. arsenicalis, ʒss.; sp. eth. nit., ʒij. Misce ft. mist. cujus cap. coch. larga duo ter in die.

℞. Scammonii, pulv. rhei, aa. gr. xxiv; hydr. chloridi, gr. iv. Misce et divide in pulv. vj. e quibus cap. j. omni mane.

[When the biliary and urinary secretions were fully restored, the powders without the calomel were ordered, and the following mixture:]

℞. Decoct. dulcamaræ, ℥viij.; liq. potassæ, ʒj.; liq. arsenicalis, ʒss. M. ft. mist. cujus cap. coch. ampla duo ter die

[The quantity of arsenical solution was afterwards diminished to twenty drops, and under this treatment the boy recovered. In this disease, Dr. Wright observes, local applications are of no use: we must find out the cause of the disease, and according to that must be our use of change of air, nutritious diet, purgatives, emenagogues, or tonics. Lemon juice is sometimes useful: and at other times, when the saliva is acid, and there are acid eructations, liquor potassæ should be given: for this reason it was given in the above case, and also because it enables the arsenical liquor to agree better with the stomach.]

Medical Times, July 10, 1847, *p.* 386.

125.—*On Pityriasis.*—By Dr. S. Wright.—[Pityriasis is closely allied to psoriasis. Dr. Wright says,—]

Psoriasis is prone to affect the muscular parts of the body; pityriasis chiefly shows itself upon the scalp, forehead, and face. You saw a very good case of both diseases in the person of a man named Hines, who came into the top ward of the hospital on the 28th of November last year. His arms, and hands, and legs were extensively covered with patches of psoriasis: the upper part of his face, his forehead, and scalp were completely dusted with the peculiar dandriff of pityriasis. Both, here, occurred in the same individual, and merely differed in their relative intensity. The man was a brassfounder, and had lately been out of work, and indifferently fed. The disease was of five week's duration. He was ordered generous diet, and half-a-pint of ale daily.

℞. Decoct. dulcamaræ, ℥viij.; liq. potassæ, liq. arsenicalis, aa. ʒj.; misce fiat mist. cujus cap. coch. ampla duo ter die.

℞. Pil. coloc. c. ℈ij.; extr. hyoscy., ℈j. Misce et divide in. pil. xij. quarum cap. ij. omni nocte.

This was all the general treatment the man had, and on the 23rd of December he left the hospital well. Five days less than a month, he was under medical management, and at the time of his departure there was not a trace of skin disease about him. It is probable that the medicines administered to this patient rendered him some service; but perhaps the greater service was due to his improved mode of living. I am inclined to think thus, from the very obvious change that took place in his general health directly that he came into the hospital.

The only local treatment he had, was a little spermaceti cerate to sundry chops in his hands, that were unusually large and sore. I am not fond of greasy applications in these cases, for they prevent perspiration, and often do more harm than good; but where the subcutaneous tissue is irritable and unduly exposed, a protection like that afforded by a simple unguent is often valuable. In other cases, again, where the affection is purely local, a very dilute form of citrine, or any similar ointment, will sometimes change, and finally subdue, the inflammatory character of the ailment.

Medical Times, July 10, 1847, *p*. 387.

126.—*On Sycosis.*—By Dr. S. Wright.—The causes of sycosis are various, and are both general and local. The disease often arises from a scrofulous taint. Cachexia, the gouty and rheumatic diathesis, dyspepsia, irregularities of living, exposure to inclemency, &c., will occasion it. Amongst its local causes, the most common are washing the face, whilst heated, with cold water; exposure of the face to strong artificial heat; the use of a bad razor, or of strong soap. One of the severest cases I ever saw, resulted from a profuse scrubbing of the face with soft soap. I do not think that the exciting causes I have mentioned ever produce sycosis except in cases where there is a predisposition to it.

The disease is esentially one of the hairy tissues, which will perhaps chiefly account for its intractableness. What in another spot would be simple inflammation of the derma, or contiguous parts, becomes in this case the more serious, because of the implication of the sebaceous glands and hair bulbs. Baldness of the part is sometimes a consequence of the disease.

[The patient was directed to clip the beard carefully, to use no soap in washing, but to dab the face with a soft towel. Regular diet and abstinence from stimulants were enjoined; and,]

The following lotion was ordered to be applied three times a day:—

℞. Hydrarg. bichloridi, gr. ij.; acidi muriatici m. ij.; mist. camphoræ, ℥viij. M. ft. lotio.

Additionally he had these medicines:—

℞. Inf. gentianæ, ℥viij.; liq. potassæ, liq. arsenicalis, aa. ʒj. M. ft. mist. cujus cap. coch. larg. duo ter die.

℞. Pil. coloc. c. ℈ij.; extr. hyoscy., ℈j.; pil. hydrarg., gr. x. Misce et divide in pil. xiv. quarum cap. ij. omni nocte.

In less than a fortnight, we had some satisfactory evidences of improvement. The congestive and inflammatory tendency was less, as shown by the external appearance, and the patient's own remark, that he had less heat, pricking, and pain in his chin than previously. Further, there were fewer spots of suppuration, and in one or two places a little furfuraceous material had collected. You remember my dwelling upon this, as one of the best features in the manifestations of amendment, and saying that the fact of epidermal desquamation being successive of suppuration was proof that the local inflammatory action was subsiding. Such proved to be the fact. In this case we had not a solitary drawback. The patient systematically improved from the commencement, and, before two months had elapsed, he was able to shave the lower part of his face without inconvenience.

[In these cases of Psoriasis, Pityriasis, and Sycosis alluded to by Dr. Wright, glycerine will prove a valuable application. See Art. 133.]

Medical Times, July 10, 1847, *p.* 388.

127.—*On Prurigo Senilis.*—By Dr. Bellingham, Dublin.—[This disease is well known to be very intractable, and is indeed set down by many authors as incurable: hence the treatment usually recommended is merely palliative, and consists in the use of simple salt or sulphur baths, lotions containing sulphuret of potash, or corrosive sublimate, cinnabar fumigations, &c. Dr. Bellingham thinks that a good deal may be done by treatment. He says,—]

Constitutional remedies appear to have little effect upon prurigo; our principal reliance therefore must be upon local measures. The local application which I have found most generally useful, both in relieving the intolerable itching, and in curing the disease, is creosote, either in form of ointment or of lotion, usually the former. The ointment may be made with from ten to twenty drops of creosote to the ounce of lard, the lotion with from twenty to thirty drops of creosote to the half-pint of water, a little spirit of wine or acetic acid being added in order to render it more soluble. The ointment to be useful should be well rubbed into the parts every night, and a very few applications will in general relieve the itching, prevent the development of fresh papulæ, while the old ones will gradually desquamate. If the application of the ointment is premised by the warm bath, and if the patient attends to personal cleanliness, the remedy will be more likely to prove quickly successful.

It is not necessary here to multiply cases of this affection: one well-marked one will be amply sufficient for every purpose in illustrating the effects of the remedy.

Case.—The patient, a male, aged 60, presented himself at St. Vincent's Hospital, suffering under prurigo senilis in an aggravated form; the eruption engaged almost every part of the body, except the face, hands, and feet; the site of the papulæ in many places was marked by little black scabs, and the impression of the nails was very visible on many other parts of the surface. The disease had existed for three years, was accompanied by intolerable itching, particularly at night, when the patient became warm in bed, and by the development of pediculi.

An ointment, composed of ten drops of creosote to the ounce of lard, was prescribed, which was directed to be well rubbed into the affected parts.

On the following day the itching had much diminished, and in four days was hardly complained of; the number of the papulæ had diminished, and the surface of the skin presented a much more natural appearance. The patient was directed to continue the use of the ointment for some time longer.

Before concluding, I may observe that the efficacy of creosote, as a local application in cutaneous disease, is not limited to cases of prurigo. In that comparatively rare, but very intractable form of disease of the scalp, the *favus confertus* of Erichsen, which is known under a great variety of names, as the porrigo scutulata, tinea annularis, scalled head and ringworm of the scalp, which constitutes one of the few contagious diseases of the scalp, and is one of the few which occasions the destruction of the bulbs of the hair, and for the cure of which that most painful application, *the pitch cap*, was in former times supposed to be essential, creosote in the form of ointment and lotion will be found a most effectual remedy, provided its use is persevered in for a sufficient length of time, and attention is at the same time paid to cleanliness. On the other hand, in the vesicular and pustular diseases of the scalp, in which the eruption is usually preceded or accompanied by more or less inflammation, evidenced by the heat, redness, soreness, and discharge, creosote as a local application will be found to disagree, and will rather aggravate than relieve the disease.

Dublin Medical Press, Sept. 8, 1847, *p.* 146.

128.—ON THE TREATMENT OF ERYSIPELAS BY NITRATE OF SILVER.

By John Higginbottom, Esq., Nottingham.

[If nitrate of silver be applied early it will certainly subdue the local inflammation; but still we must use constitutional remedies, especially for the regulation of the digestive functions. Of the mode of using the nitrate Mr. Higginbottom thus speaks:]

Even in idiopathic erysipelas, there is no period of the disease when I would not apply the nitrate of silver. I have never in any case seen metastasis, or any other bad effect, from the use of this important remedy.

When it is necessary to apply the nitrate of silver over an extensive surface, as in erysipelas, I have for some years used the concentrated solution, in the manner proposed by Mr. John Gooch, surgeon, R.N., in a paper published in the *Lancet* of September 15th, 1832, entitled "Practical Remarks on Erysipelas, as it appeared on board His Majesty's ship, *Prince Regent*." The strength of the solution is not given in this paper; I prescribe it in the following manner:—

℞. Argenti nitratis ℈iv.; acidi nitrici. gtt. vj ; aquæ distillatæ ʒiv.

In erysipelas of the face, when it is spreading on the forehead, or at all on the scalp, the head should be shaved as early as possible, in order that we may trace the extent of the inflammation on the scalp, which often can only be detected by pain, or by an œdema being felt on pressure with the finger. The affected part should be well washed with soap and water, to remove any oily substance from the skin, and afterwards with pure water, to wash away any particle of soap remaining. The concentrated solution may be then applied several times on the inflamed part, and for two or three inches beyond the inflamed margin on the healthy skin. It requires to be applied very freely all over the scalp, where it scarcely or never produces vesication.

In about twelve hours it will be seen if the solution has been well applied. If any inflamed spot be unaffected by it, it must be immediately re-applied to it. Sometimes, even after the most decided application of the nitrate of silver, the inflammation may spread, but it is then generally much less severe, and it is eventually checked by the repeated application of this remedy. I have, in some cases of traumatic erysipelas, found the inflammation to spread more severely and more rapidly than in the idiopathic, but by the free repeated application of the nitrate of silver, it has at length been subdued.

The nitrate of silver is not a caustic, in any sense of the word. It subdues inflammation, and induces resolution and the healing process. It preserves and does not destroy, the part to which it is applied. If we compare a caustic, as the hydrate of potassa, with the nitrate of silver, we find that the hydrate of potassa destroys and induces a slough and the ulcerative process; but if we touch a part with the nitrate of silver, the eschar remains for a time, and then falls off, leaving the subsequent parts healed.

If an ulcerated surface secreting pus be touched by the nitrate of silver, the succeeding discharge is immediately converted into lymph: it is the property of the hydrate of potassa, on the contrary, to induce not only ulceration but suppuration. In short, the peculiar properties of the nitrate of silver have long been kept unknown to us by the designation of lunar caustic, affording the most striking instance of the influence of a term, or of a classification, upon the human mind. The nitrate of silver and the hydrate of potassa (as indeed all caustics) are as the poles to each other: the first preserves, the second destroys; the first induces cicatrization, the second ulceration.

Medical Gazette, Sept. 24, 1847, *p.* 544.

129.—*On the Treatment of Erysipelas by Linear Blisters.*—Erysipelas is not a severe disease when it is confined to a limited part of the body; it is generally its extension, either superficially or in depth that produces the danger. Attempts have been long made to counteract this tendency to extension, by the nitrate of silver, solutions of sulphate of iron, &c. These methods have for the most part failed. M. Piorry affirms that he has discovered a means of effecting the desired limitation of inflammatory action with great certainty, by applying at the commencement of the disease, narrow blisters around the entire circumference of the inflamed skin, at a distance of an inch or two from its border. He states that the erysipelatous blush soon reaches the inflammation arising from the blister, but in more than twenty cases has not gone beyond it.—*Journal de Pharmacie.*

Provincial Med. and Surg. Journal, June 30, 1847, *p.* 360.

130.—*On the Employment of Treacle in Burns.*—By Dr. H. Payne, Nottingham.—[Mr. Bulley, surgeon to the Royal Berkshire Hospital, many years ago, (see Retrospect, Vol. V., art. 75), drew our attention to the treatment of burns and scalds by the application of equal parts of treacle and water. Dr. Greenhow, of Shields, used the same simple remedy in 1838. Dr. Payne has used it for even twenty years. He says:]

In all such cases which come under my notice, I order the treacle to be applied pure on the injured surface, and at the natural temperature; folds of well-aired linen being laid over it, and the dressing allowed to remain for two or three hours at first, when the treacle will be found in a more fluid state, hot to the touch, and the rag saturated with it. The treacle is then applied in the same manner, but after the second or third day of the burn, will not require renewing oftener than once or twice daily, and the treacle will now begin to preserve its usual consistence while in contact with the burnt or scalded surface. The time occupied in healing the burn is very much less than is the case when any other means are employed. On the whole I know of no remedy capable of exerting more beneficial effects in burns and scalds, however severe, than treacle; and I am fully persuaded that life might be saved in the most desperate cases by the timely and free application of this invaluable remedy. It acts by effectually excluding the air, and (as appears by the fact of the pain entirely abating, or greatly diminishing, as soon as it is applied,) by abstracting the morbid heat from the part, and thus proving at once sedative, refrigerant, and healing.

Provincial Med. and Surg. Journal, July 28, 1847, *p.* 406.

131.—*Treatment of Burns by Ammonia.*—M. Guérard recommends in burns the application of caustic hartshorn; the application of cloths steeped in ammonia immediately relieves the pain, and must be continued for one hour after the accident. When the burn has produced any destruction of the skin, ammonia should not be used; but in the erythematous form, or when phlyctenæ are present, it is of the greatest advantage.—*Annales de Thérapeutique.*

Medical Times, April 10, 1847, *p.* 137.

132.—*Parasitic Animals destroyed by Inunction.*—By Dr. Baumgaertner.—No plant, or animal, nor even a solitary cell can exist without an indirect or direct communication with the atmosphere. An oil enema destroys ascarides; and illination with olive oil will cure the itch: it seems not improbable that the method of cure in other cutaneous diseases that are removed by inunction is similar. Temperature has also an important effect. Aphthous products do not well bear a diminished temperature; consequently cold gargles will be beneficial. Cold or warm remedies may be also applied locally. Poisonous applications have been extensively used in cutaneous and aphthous affections, as borax, alum, mineral oxides, salts, and acids, sulphur, iodine, phosphorus, &c. It is not improbable that arsenic, administered internally in cutaneous affections, acts as a poison on the morbid products, and might be used very effectually as an external application. Of course it would require the greatest care in its management.

British and Foreign Medical Review, July, 1847, *p.* 136.

133.—*On Glycerine.*—By J. Startin, Esq., Surgeon to the London Cutaneous Institution.—[The nature and uses of glycerine, the sweet principle of oils, which may now be had of any first-rate druggists, are thus stated by Mr. Startin:]

When perfectly pure and anhydrous, glycerine is a nearly colourless liquid, of a sweet taste and syrupy consistence; it has a faint but not disagreeable odour, and possesses a great affinity for water, with which it readily combines; it also easily unites with oils, and dissolves many gums and resinous substances; it will neither crystallize nor ferment like a sugar, nor will it evaporate beyond a certain point, but is destroyed by ebullition.

The antiseptic and uncloying properties of glycerine first led me to attempt its use for medical purposes, as I believed, by the means of such properties, lotions, poultices, baths, &c., might be rendered peculiarly emollient and soothing. When preternatural dryness, roughness, or harshness of the skin was present, and particularly in those cases where the hair or scalp was involved, as in instances of dandriff or pityriasis of these parts, my expectations were more than realized by reducing my conjectures to practice; and I found that by the addition of one-fourth to one-eighth, or even one-sixteenth of glycerine to any lotion, poultice, or external application, all the indications I have mentioned were fulfilled, and that such application never became perfectly hard and dry, whilst it soothed and tranquillized the diseased part, by attracting moisture from the air, and thus keeping up a constant evaporation from the surface; its antiseptic properties also, in a great degree, prevented the unpleasant odour of vitiated secretions or discharges, whilst its undrying nature did not permit the formation of hard scabs or incrustations, which it is known very often interfere with the healing process, and occasion much pain on their removal. I have had little experience in the use of glycerine internally, but it is a mild stimulant, antiseptic and demulcent, and might be employed to sweeten many articles of food or drinks for those invalids whose disordered digestive organs would forbid the use of sugar. Pills made with the addition of a few drops of glycerine never become dry, and syrups and extracts by its means are kept from evaporation to dryness, as also from fermentation, and the formation of cryptogamous vegetation, or mouldiness, and many other such uses for this agent will not fail to suggest themselves; I shall briefly enumerate some diseases of the skin in which I have employed glycerine with most benefit and success; these are pityrasis or dandriff (particularly that form of the disease which I have termed *P. congenita,)* lepra, psoriasis, lichen (in its dry advanced stage,) impetigo inveterata, and prurigo. I have found glycerine also a useful addition to lotions in the incrusted forms of lupus, or herpes excedens, and to various syphilitic or strumous eruptions, which have a tendency to produce fetid discharges and hard crusts, for which reason it has proved of service in the scabbing stage of small-pox. As a wash for the hair and for chapped hands, face, or nipples, combined with a little rosewater and a few grains of borax (the glycerine being in the proportion of one sixteenth,) this remedy furnishes, perhaps, one of the most elegant and efficacious preparations which has been introduced. It may also be combined with soaps, which it renders peculiarly softening and efficient, particularly to individuals who have a dry or hard skin.

Medical Times, August 7, 1847, *p.* 469.

134.—*New Process for the Evulsion of the Nails.*—By M. Long.—[When the toe nail grows into the flesh it is a most painful thing to extract it; the following method of performing the extraction is recommended as better than those commonly in use.]

M. Long, basing his idea on the mode of connexion of the nail with the tissues, conceived it possible to tear away the nail by its root, by the aid of a simple spatula. Numerous experimental trials made on the dead subject confirmed him in this opinion, and he became able to remove the twenty nails in the short space of five minutes. Some of the nails on some bodies he found to tear, and a similar thing happens if the nail has been softened by topical applications.

The mode of proceeding M. Long finds to be of easy execution, quick, and but slightly painful, requiring no preparation, and but an ordinary iron spatula to effect it. The patient is seated on a chair, his foot being placed on the knee of the operator; the latter takes with his right hand the flattened end of the spatula, placing his thumb on the concave surface, his index and middle fingers on the convex, his two other fingers being disengaged. The spatula being thus held, the surgeon slowly separates the skin which covers over the root of the nail. Having gained its posterior border, he executes a rapid movement from side to side, so as to bring the spatula to a very acute angle with the diseased toe. This being effected, the end of the spatula is found engaged beneath the nail, which still adheres by its sides and middle portion. Then, by pushing forward the instrument between the nail and subjacent tissues, the evulsion is accomplished without any further trouble.

Such is the operation adopted by M. Long, and he has always obtained good results from it. Among the patients operated on by him, one may be cited. He was a Custom-house officer, whose nail of the right great toe was deeply buried at its sides in the flesh, to the depth of about two-fifths of an inch. The evulsion of the nail was practised without pain, and without the loss of a drop of blood. The next morning the patient returned to his employ, and fifteen days afterwards a new nail made its appearance. M. Long also performed the operation in a man suffering from traumatic onychia, and having his nail also grown over by the flesh; on the fourth day the patient got up, and on the twentieth left the hospital, a new nail beginning to appear.

The proceeding advocated by M. Long seems adapted for all cases in which the evulsion of the nail becomes necessary. The advantages it offers are—1st, the prospect of a complete and definite cure; 2ndly, the sparing the patient great suffering: 3rdly, its performance being attended with no loss of blood; 4thly, and lastly, always allowing the tissues to reproduce a new nail.

Lancet, Sept. 17, 1847, *p* 311

135.—*On the Treatment of Ulcers.*—By Bransby Cooper, Esq., F.R.S.—[With respect to ulcers with exuberant granulations Mr. Cooper says,]

In such cases pressure is indicated, which is best effected by the application of bandages; but, should such means not succeed, escharotics may be required to keep down the tendency to hypertrophy. Sulphate of copper I consider the best application for this purpose. Nitrate of silver, which is very frequently employed, tends, in my opinion, rather to increase their growth; for although, when first applied, it removes them, yet they appear to return with increased vigour after its escharotic influence has ceased.

[Indolent ulcers will generally require both constitutional treatment, and stimulating applications to the sore. Mr. Cooper says,]

Bark and acids are indicated, having taken care first that the bowels are freely opened and the secretions generally natural. Stimulants should be applied to the ulcer, either the ung. nitrici oxidi, or the ung. zinci; or, should lotions be preferred,—and, indeed, in some cases they seem more suitable than greasy applications,—nitric-acid lotion, or zinc and lead in solution, may be substituted; but, at the same time, the patient should be kept during a large portion of the day in a recumbent posture, and much benefit is sometimes derived from the elevation of the affected limb. Porter and generous diet will also expedite the cure, by exciting the reparative process. The pressure and support of a bandage is occasionally useful, but in languid or indolent ulcers its utility is doubtful; for I have frequently observed that a tendency to slough follows its application, as if the granulations were too tender to sustain the slightest pressure.

When these ulcers prove very stubborn, and resist all the constitional and topical remedies, I have lately witnessed the best results from stimulating their surface, by subjecting it to a stream of negative electricity by a method I shall describe, and which was recommended by my colleague Dr. Golding Bird, who is constantly so happily applying his general philosophical knowledge to the improvement of medical science.

At a convenient distance from the indolent ulcer (not less than five or six inches) a portion of cuticle is raised from the cutis by the application of a piece of emplast. lyttæ of the size of a half-crown. The cuticle is detached by a pair of scissors, and on the exposed cutis a piece of zinc foil is placed, of the same size as the denuded spot. A plate of silver-foil is laid on the original ulcer, and the two plates connected by means of a thin copper wire. The size of the silver plate is immaterial. Both zinc and silver are now covered with pieces of moistened lint and oil-skin, and the apparatus, as recommended by Dr. Bird, is complete. In a few hours the surface beneath the zinc becomes white, and a slough begins to form, which in a short time is thrown off, leaving a healthy ulcer behind. In the meanwhile a great change has taken place in the original ulcer: it has thrown aside its indolence; the granulations are sprouting and contracting; new skin is forming at the margin, and the whole surface looks healthy and animated. The rationale of the action of this contrivance is simple enough. There occurs a decomposition of the water and chloride of sodium naturally existing in the blood and tissues; the result of this is the formation of soda (oxide of sodium) and the evolution of hydrogen and chlorine. The former escapes at the silver plate, while the latter unites with the zinc to form chloride of zinc, which produces the above speedy escharotic effect.

Medical Gazette, Oct 1, 1847, *p.* 570.

136.—*On the Application of Aconitum Napellus to Ulcers.*—By J. Grantham, Esq. F.R.C.S.—Those ulcers which I have been in the habit of treating with the aconite are of a sphacelated and phagedenic character, occurring in patients of a gouty diathesis, where there is hypertrophy of the ligamentous tissue, and also in those ulcers which often assume a sphacelated action over the region of varicose veins. The sphacelus is most superficial and cutaneous in the varicose limb, and deepest in true podagra; in the latter, composed of an abnormal deposit (according to Wollaston's analysis) formed of the urate of soda, with a little of the urates of potash and lime, chloride of sodium, and animal matter. These ulcerations are very uncontrollable, and most acutely painful, very difficult to quiet, and still more tardy to heal: such has been my experience, and, instead of finding the means answering the end, the converse has been the result, until I adopted the following mode of treatment, which consists in the application of the monkshood. The root, stem, and leaves should be collected when the plant is in flower, and dried in the same manner as recommended in the Pharmacopœia, i. e., "in the shade." An infusion should be made of the whole plant, as I have found a decoction of the plant deficient in its efficacy; the liquor should then be carefully strained off, and a poultice made of the fluid with bread, and applied as hot as the part will bear, and the heat maintained by covering the poultice with wadding, and changing the poultice more frequently. It is of no small importance, in treating ulcers, to keep up the natural temperature of the whole limb; there is a normal vitality which is essential to the healing of all wounds.

I wish it to be understood that the above treatment will not at all times possess the same salutary therapeutic action on the part, but am confident it will be found a very beneficial application in such cases as I have named, after regulating the general health, viz., by removing congestion of the brain, liver, or intestines, presupposing such may be the case, as I have often seen such a condition of one or more of the visceral organs during the early stage of gouty inflammation. The effects of this dressing will be to enable the living part to throw off the dead matters, and assume a healthy process. The aconite has been used internally by Stoerk in gout and rheumatism, and subsequent authors have written favourably of its effects when taken internally, but its use as an external application does not appear to have attracted the attention of medical practitioners.

Medical Gazette, Aug. 6, 1847, *p.* 251.

137.—*Hydatids of the Lower Lip.*—Dr. Heller, of Stuttgard, has seen five cases in which acephalocysts were developed in the lower lip, and always on its inside. This affection appears first as a small and hard lump, which rapidly increases, so that in one month it may attain the size of a cherry; it gives rise to pain, deformity, and difficulty in moving the lip. The hydatids are seated immediately beneath the mucous membrane, and are transparent. If they can be removed without opening their cavity, they are found to be made up of a rounded vesicle, full of fluid, transparent as water, and with a diaphanous and tender wall. The only cure consists in extirpating the cyst, which must be total, or it will reappear; hence nitrate of silver may be applied after the operation.

[In a case which came under our own notice about six months ago, in a young, delicate lady, seventeen years of age, the hydatid, situated on the internal part of the lower lip, had, in the space of three months, acquired the size of a small hazel-nut. We touched it with tincture of iodine once, twice, or thrice a-day, as the patient could bear it, and in three weeks the transparent sac entirely disappeared, leaving a small ulcer with a hardened base; to this we applied occasionally nitrate of silver, which healed the wound. Gentle external friction twice a-day, with a little iodine ointment, eventually removed every vestige of hardness.—Ed. *Medical Times.*]

Medical Times, June 12, 1847, *p.* 311.

138.—*On the Action of the Skin in Sensation.*—By Dr. Baumgaertner.—*Mode of Sensation.* It is matter of observation, that the smallest possible point of the skin is sensitive; but there are not nervous fibrils reticulated over every point. It is therefore inferred that the direct or immediate agency of the sensitive nerve is not necessary to the communication of a sensation. It is certain, too, that the mere physical action of light on the retina is not all that is requisite to vision. The skin, Dr. Baumgaertner thinks, must be looked upon as consisting of conducting and non-conducting tissue; the former being the cutaneous fibrils, the latter the epidemis. In each sensory apparatus, a distinct chemical or physical process is developed by external agencies.

British and Foreign Medical Review, July, 1847, *p.* 132.

139.—*Note on Vaccination.*—By Dr. Weir.—[Dr. Weir introduced to the Edinburgh Obstetrical Society a new instrument for vaccinating.]

It consists of a small handle of ivory, with four needle-points projecting from one extremity, and a small curved knife for collecting and separating the vaccine matter at the other. The skin is opened by a crucial scratch with the needle points, which are held vertically, and are lightly applied, so as merely to remove the cuticle.

The advantages of this instrument over the lancet are, that the operation is done more speedily, and that it opposes a larger surface for the absorption of the lymph, which is less liable to be washed away by too great an effusion of blood.

Dr. Weir also adverted to the different modes of preserving and carrying vaccine lymph. Of the ordinary methods, viz., by means of the ordinary vaccine bottle—between plates of glass—and in a glass tube, or in a bulb and tube hermetically sealed; the last was certainly the best method to follow in sending vaccine matter to a distance, as to India, for example. The tubes, however, are very liable to be broken. Dr. W. had lately attempted to preserve it by soaking a piece of sugar with the lymph, pounding the sugar when dry, and keeping it in a well closed bottle. He applied this powder by sprinkling it on the exposed surface with a hair-pencil. In all the cases in which he had used this powder, the vaccination succeeded quite well. In two cases he made two scratches, in one of which he inserted the lymph in the usual way; in the other he sprinkled the powder. The result was much the same in all. He had attempted some time ago to preserve the lymph in naphtha, but the result was not satisfactory.

Monthly Journal, July 1847, *p.* 69.

AFFECTIONS OF THE EYE AND EAR.

140.—ON STRUMOUS OPHTHALMIA.

By J. F. France, Esq.

[In a series of reports of ophthalmic cases occurring at Guy's Hospital, Mr. France relates that of a woman with strumous ophthalmia, the exciting cause of which had been suppression of the catamenia from exposure to cold. There was opacity of both corneæ, and intense photophobia, which failed to yield to the usual treatment of leeching, counter-irritation, alterative mercurials, purgatives, and tonics. Belladonna collyrium was used with better effect; and the intolerance of light and other symptoms were finally removed by the free application of nitrate of silver to the skin of the upper eyelids. Respecting this mode of treatment Mr France says,—]

When, however, intolerance of light obstinately remains, notwithstanding the relief of intestinal disorder, and the mitigation of local inflammation by appropriate means, the application either of tincture of iodine, or of lunar caustic, to the cutaneous surface in the immediate neighbourhood of the conjunctiva is sometimes of eminent service. Does not the circumstance of such application to parts supplied by the fifth nerve being beneficial, but more especially the fact of belladonna collyria being advantageous, when photophobia is severe and obstinate, tend to invalidate the prevalent opinion, that morbid irritability of the retina is the cause of this symptom? The doubt here suggested gathers weight, when we consider that not only is belladonna beneficial—a remedy ensuring a larger than previous afflux of light to the retina, by means of the dilatation of pupil which it produces—but that also the symptom under discussion may exist in a high degree when the cornea is opaque from inflammation, as was manifested in the case just detailed.

The last case but one likewise affords great countenance to the rival theory, that strumous intolerance of light is identified with morbid irritability of the conjunctiva, and not with irritability of the retina; and, of consequence, that the fifth, not the second nerve, or its expansion, is at fault: seeing that when anæsthesia was perfect, photophobia was entirely absent; but on the relief of the former, the latter immediately supervened, notwithstanding that inflammation had meanwhile been mitigated.

Space will not now permit me to enter into this argument at length; indeed, it is somewhat beside the scope of the present communication; but I cannot leave the subject without alluding to the ready explicability of the paroxysms of sneezing, so often caused by exposure of the eyes of patients with strumous ophthalmia, on the theory of the conjunctiva (a membrane, like the Schneiderian, copiously supplied by the ophthalmic nerve) being in a state of irritation. Grant this theory, and the parallelism in causation of the phenomenon, when excited by an unusual stimulus, as snuff, applied to the quiescent Schneiderian, or a wonted stimulus, as atmospheric air, applied to the same membrane irritated by nascent catarrh on the one hand, and when excited by light impinging on a morbidly irritable conjunctiva on the other, becomes apparent; different branches merely of the same nerve being, in that case, the afferent vehicles of an excito-motory impression.

Again, lachrymation is excited simply by irritation of different branches of the same nerve, whether produced by stimulant particles applied to the nares, or to the surface of the conjunctiva. Why, in cases of intolerant light, must it be originated through a separate nervous channel?

We are no more bound, it must be observed, on the admission of this theory, to concede the least amount of *visual* power to the fifth nerve, than we are to acknowledge the residency of that power in camphor or a solution of lunar caustic, because those substances exhibit an unquestionable appreciation of the presence of light. But, on the other hand, to attribute to the conjunctival filaments of the ophthalmic a consciousness (so to speak) of the presence of light,—independent of the properties of that agent in relation to special sense, but connected, it may be, with its general chemical influence,—is but to recognise their possession of a sensibility, supplementary, indeed, to, but in strict accordance with the prophylactic character of, that which they are universally allowed to enjoy. The ophthalmic nerve is the sentinel of the eye.

One more fact corroborative of the view respecting the seat of photophobia here proffered I must mention, viz., that inflammation of the conjunctiva and cornea habitually follows in the train of strumous intolerance of light; but affections of the retina, either inflammatory or paralytic, as its consequences, are unknown.

Guy's Hospital Reports, 1847, p 35.

141.—ON ENTROPION.

By Dr. Bellingham, Dublin.

[The first case given by Dr. Bellingham is that of a girl 14 years old, who had suffered for three years from entropion consequent upon neglected ophthalmia.]

On examination, the tarsal cartilage of the upper lid of the right eye is inverted, and the eyelashes, which are long, lie against the cornea (except near the angles of the lids), and in every motion of the lids rub against this part. The cornea is vascular and muddy with some opacity, and vision is impaired. The edges of both eyelids are inflamed and excoriated; there is increased lachrymal and mucous secretion, and the eyelids are glued together by the latter during sleep; the patient does not, however, appear to suffer as much inconvenience from the continual friction of the lashes against the front of the eye as might be expected, probably owing to their length. Her general health is good.

July 9th. Being considered a favourable case for the operation for entropion, as modified by Dr. Jacob, it was performed this day. The patient being seated, and the head supported by an assistant, the inverted upper lid was raised from the globe of the eye so as to admit one blade of a strong scissors under it: a perpendicular incision about a quarter of an inch in length, was then made through the tarsal cartilage and lid upon the temporal side, and a second upon the nasal side, avoiding the puncture, and including the entire inverted portion of the lid; the flap being now everted, and held in that position, a horizontal incision, connecting the two perpendicular incisions, was made with a small scalpel on its conjunctival surface close to the ciliary margin, cutting through the conjunctiva and tarsal cartilage, and leaving the inverted portion of the margin containing the ciliæ united to the rest of the lid merely by the integuments.

The inverted portion of the lid now no longer turned against the ball of the eye, and as soon as the bleeding had ceased, the edges of the transverse incision were touched with the sulphate of copper to render the chance of union by the first intention less. A pledget of lint dipped in cold water was then laid on the part, and the patient was directed to remain at rest.

11th. The edges of the transverse incision have partially united by the first intention; the adhesions were therefore broken up, and instead of applying a pledget of lint, the ciliæ of the flap were confined to the skin of the brow by a little adhesive plaster.

16th. Wound quite cicatrized; the eyelashes now lie well out from the eye, and on closure of the lids do not come at all into contact with the cornea. There is no increased mucous or lachrymal secretion now, and the cornea is beginning to clear. A few of the ciliæ at the angles of the eye immediately outside the line of incision appear to have a tendency to become inverted; this was prevented by means of a little adhesive plaster which confined them to the skin covering the lid.

23rd. The eyelashes lie well out from the globe of the eye, and are on a line with those of the sound side; the cornea is clearer, and a very trifling mark shows the line of the perpendicular incisions. Discharged.

[Another case was that of a man æt. 45, who had been affected since infancy.]

On examination, the eyelashes of the upper lid of the left eye (which are short and strong) lie closely in contact with the ball of the eye, from close to the internal angle to the outer angle of the lids, and every time the eyelids are moved they rub against it. The tarsal cartilage is shortened and contracted; the edges of the lids are thickened, excoriated, and red; the eyelid is œdematous, and the eye constantly watering; the scalding, irritation, and pain, are extreme, and the intolerance of light so great that the patient holds the head down, is constantly winking and rubbing the lids, and resembles in some respects a patient labouring under strumous ophthalmia; the cornea is vascular and dull, with an opacity nearly opposite the pupil. The patient's general health has suffered, he is debilitated and emaciated, and most anxious to submit to any operation likely to afford him relief.

April 19th. The disease being much more severe, more extensive and of longer standing, than in the preceding case, and the chances of success from the same operation being much less, it was determined to excise the cartilage with the bulbs of the eyelashes. A horn spatula was introduced under the upper lid of the affected side, and extension endeavoured to be made by pressing the ciliæ against it, but they were so short that this could not be accomplished; the upper lid was therefore supported and kept tense by the spatula, and with a few strokes of the scalpel, the edge of the tarsal cartilage, with the bulbs of the eyelashes, was excised; the parts were so exceedingly vascular that each incision was followed by copious hæmorrhage, and one artery yielded blood per saltem. The patient, after the smarting from the operation had subsided, felt very considerable relief, and seemed to take pleasure in closing and opening the lids, as he could now do it without suffering pain.

20th. The incision is partly healed, the intolerance of light is much less, and the patient feels very comfortable.

23rd. The wound is almost healed, the lachrymation and intolerance of light have subsided, and the patient moves the lids without suffering any pain.

27th. The cornea is beginning to clear, and the eye is quite free from pain; subsequently a few ciliæ made their appearance near the punctum and at the outer angle of the eyes, the bulbs of which were excised, and the patient left the hospital shortly afterwards well.

Clinical remarks.—The two foregoing cases are good examples of a form of disease sufficiently frequent in this country, though seldom seen except among the lower orders, and always the result of neglected ophthalmia. It is surprising how long patients of this class will submit to pain and inconvenience when the eye is concerned without seeking medical relief; in fact, unless vision is seriously impaired, and they are thereby incapacitated from earning their bread, they often allow disease to run its course almost unchecked, in the expectation (they say) that "it will wear away," or that "it won't signify." One of the foregoing patients, for instance, had laboured under the affection since his infancy, yet had never previously sought medical aid.

Entropion, then, being always the result of neglected inflammation, presents itself in various degrees; thus it sometimes occupies both the upper and lower eyelids, or it may be limited to one, or it may be partial, occupying only a portion of the margin of the tarsal cartilage. Different cases will consequently require opposite modes of treatment; when the tarsal cartilage is corrugated and contracted as well as inverted, the same operation will not answer as when the inversion of the lid arises merely from the integuments of this part being relaxed and lengthened. When the disease is of long standing, some surgeons give the preference to the operation of excision of the edge of the lid with the bulbs of the ciliæ; no doubt a radical cure will be effected in this way, but it will be accomplished at the expense of much personal deformity, and the majority of cases admit of milder and equally effectual measures.

The two foregoing cases illustrate the kind of operation adapted to the advanced stages of entropion. In the first, the operation performed was that originally practised by Dr. Jacob, which is a considerable improvement upon the old operations, and is always effectual in relieving the inversion without occasioning almost any deformity. The success of this operation depends in a great measure upon union by granulation taking place in the transverse incision upon the conjunctival surface of the lid; hence it may be necessary to evert the flap occasionally during the first two or three days, to prevent union by the first intention. In the case related above, the cut surfaces were touched with sulphate of copper immediately after the operation in order to diminish the chance of this occurrence, nevertheless it was still found necessary to break up the adhesions, which had apparently resulted from the pressure of the dressing and bandage applied over the lids after the operation; hence it might perhaps be advisable to dispense with all dressings in such cases.

It occasionally happens that after the cure of the entropion by this operation some of the ciliæ at the angles of the incisions in the tarsal cartilage become turned towards the globe of the eye, and excite and keep up irritation. This will seldom happen except from neglect on the part of the patient; it may be prevented by confining the ciliæ to the skin of the eyelid by means of a little adhesive plaster during the cicatrization of the wound. If they become troublesome afterwards, the offending ciliæ can be extracted, or the bulbs may be excised.

In the second of the foregoing cases the disease was of much longer standing, and in a much more aggravated state; the only chance of cure, therefore, appeared to consist in excision of the cartilage with the bulbs of the eyelashes. This is usually a very simple operation, and is certain to be effectual so far as relieving the entropion, provided the bulbs of all the ciliæ are cut away; but we generally find, notwithstanding every care, that some of the ciliæ in the vicinity of the punctum, grow again, or are reproduced, and occasion so much inconvenience afterwards as to require to be excised.

With respect to these two operations for entropion, no parallel can well be drawn between them, they are adapted to different stages of the same disease; when the inversion is incomplete, and engages only the central portion of the tarsal cartilage, the milder form of operation is always to be preferred; but when the disease is of very long standing, and the entire tarsal cartilage is inverted, excision of the bulbs of the ciliæ will alone prove effectual, and permanently relieve the patient.

Dublin Medical Press, Sept. 15, 1847. *p.* 162.

142.—*On Extraction of the Lens.*—By Dr. BELLINGHAM.—With respect to the operation of extraction of the lens, the stages of the operation which are regarded as the most difficult are the introduction of the knife and the making the counter-puncture; because the moment the point of the instrument touches the cornea, the eye involuntarily starts away, and when its point has been introduced, the eye turns towards the angle of the orbit, and as the knife is passed onwards, the cornea becomes sometimes completely obscured, so that it is impossible to see the point at which to make the counter-puncture; while if pressure is made upon the globe with the finger so as to endeavour to fix the eye, there is a risk of the loss of a large portion of the vitreous humour, or of the iris falling forwards against the edge of the knife. These difficulties may be completely obviated by fixing the eye by means of a strabismus hook, inserted at the inner angle, which may be held in the left hand of the operator, and by which the eye will be steadied without the slightest pressure being made upon the globe. The application of the strabismus hook does not cause any injury to the organ, and by its use the operation is rendered exceedingly easy of performance.

It has been a disputed point, whether in the operation of extraction it is more desirable to make the section of the cornea upwards or downwards; this appears to be a matter of very little real importance; in operating upon a patient in the sitting posture, the incision downwards is the most convenient; while in operating upon a patient in the recumbent posture, the section upwards will be most readily effected. Hence, when the cataract is seated in the left eye, the patient must be seated, unless the operator is ambidexter; while if the right eye is the seat of the disease, the patient had better be placed in the recumbent posture, and the section of the cornea made upwards. In the latter case, the strabismus hook is not required; the operator can himself with the forefinger of his left hand raise the upper lid, and fix the eye.

After the operation of extraction of the lens, it is absolutely necessary that the eyelids should be maintained perfectly at rest until the wound in the cornea is healed; if the flap is disturbed by the motion of the lids, it cannot heal by the first intention; inflammation will be set up in the organ, and vision may be materially impaired. I generally, immediately after the operation, close the sound eye, by a few strips of adhesive plaster passed over the lids, from the forehead to the cheek, so as to diminish the chance of the other being disturbed. It is, however, extremely difficult to make patients, belonging to the class generally treated in hospital, understand the necessity of maintaining the eyelids perfectly at rest after the operation; indeed, it is sometimes necessary to secure their hands to prevent them rubbing the lids and displacing the flap of the cornea; and notwithstanding every precaution, they will move the lids, or open the eye, and so interfere with the healing of the wound, and with the success of the operation; and after leaving hospital they will probably refer the imperfection of vision, which has resulted solely from their own imprudence, to want of skill in the surgeon, whose gratuitous services they have enjoyed.

Dublin Medical Press, Sept 22, 1847, *p.* 179.

143.—ON INHALATION OF ETHER IN OPHTHALMIA.

By Dr. W. Mackenzie, Glasgow.

[Dr. Mackenzie has employed the inhalation of ether with considerable success in scrofulous ophthalmia, corneitis, and sympathetic ophthalmitis; and, with less advantage, in neuralgia of the fifth pair, and asthenopia.

He gives us some cases: the first was one of scrofulous ophthalmia of three months standing, in a girl, aged fourteen. After having been relieved by tartarized antimony, ipecacuan, blistering, belladonna, &c., a relapse took place; and after leeching and blistering had been freely used, with but little relief to the intolerance of light, she was ordered to inhale ether vapour. Dr. Mackenzie thus describes the result :]

After inhaling the ether for about a minute and a half from Mr. Foulds's pocket inhaler, the muscular system became relaxed, and insensibility was all but induced. She continued in this condition for nearly the same period of time, manifesting symptoms of intoxication. On her recovering, it was evident that the intolerance of light was much less; she expressed herself as being considerably relieved, and without assistance walked from the fireplace to the consulting-room to the waiting-room below. This circumstance was the more striking, as, from the severe intolerance of light, she had that day, and for ten or twelve days previously, required to be led to and from the Infirmary. She remained nearly an hour in the waiting-room, during which time the intolerance had not returned, and then walked home, to the amazement of her guide, with her eyes open.

[The intolerance of light never returned. Dr. M. then relates a case of corneitis with great intolerance, in which the ether was used with some advantage: he says, after relating it:]

The above was about as bad a case of corneitis as I have ever seen. The partial recovery which has taken place, and which it is to be hoped will still advance, appeared attributable almost entirely to the inhalation of the vapour of sulphuric ether.

Medical Gazette, June 18, 1847, *p.* 1077.

144.—*Effects of Ether on the Eye.*—By Thomas Smith, M.D., Cheltenham.—[The use of ether in ophthalmic cases may be of essential service to us. There are few things more difficult than to manipulate in any way on a child's eye, on account of the difficulty of keeping it steady. But Dr. Smith has found it of great use in strumous cases, and in a case related by him, he was enabled, by etherizing the little patient, to examine the state of the organ leisurely. He goes on to remark:]

Children under fourteen years of age are much more susceptible to the influence of ether than adults. They rarely, if ever, suffer from any of the inconveniences which those of a more mature age occasionally complain of. A very small quantity of ether will suffice to induce insensibility in them. In the adult I have constantly noticed increased vascularity of the tunica conjunctiva as a result from inhaling ether. This condition of the membrane has almost invariably been absent in all the experiments I have essayed upon children. This I conceive to be a strong recommendation for the more general adoption of etherization by ophthalmic surgeons in the various operations on the eye in young persons. In strumous ophthalmia its use is unquestionable and self-evident. It will not cure the disorder, nor relieve, except for a very short time, the intolerance of light, yet it will enable the medical attendant to ascertain effectually the state of the eye without exasperating the disease in his attempts to accomplish his object. All risk of permanent injury to the eye will be avoided should the cornea be ulcerated. The nitrate of silver, or any other escharotic, can easily be applied, and recovery promoted, without inducing any of those paroxysms of crying and struggling which in many cases cannot fail to add materially to the mischief already existing. In very young children half a drachm of ether poured into a basin or jug containing a small portion of lukewarm water, and held under the child's face for a few seconds, a silk handkerchief or towel being thrown over her head to confine the vapour, will quickly and readily produce all the effects for which etherization may be required. Individuals with sensitive skins, and those suffering from sycosis, will find this method of inhaling the ether decidedly the best adapted for them. In such persons the application of the sponge to the mouth has a tendency to aggravate their complaint, and when the skin is very tender, to blister the surface. The pressure occasioned by a mouthpiece is equally injurious, and produces similar unpleasant results, independent of its tendency to induce asphyxia.

Medical Gazette, Oct 15, 1847, *p.* 676.

145.—ON ACUTE MYRINGITIS.

By W. R. Wilde, Esq., Surgeon to St. Mark's Hospital, Dublin.

In *acute inflammation* of the membrana tympani, the vascularity is generally seated in the true, fibrous membrane of that structure, and is usually the result of cold, and often attributed to rheumatic diathesis: sudden exposure to a low temperature, blasts of harsh cold wind, diving in the sea, foreign bodies, and irritating substances introduced into the external ear, &c. The auditory canal, and sometimes even the auricle, is engaged; and although we are not able to observe the precise pathological condition of the cavity of the middle ear, or its investing membrane, there can be little doubt but these parts, sooner or later, participate in the general inflammatory action.

The dermal structure of the membrana tympani also partakes of the abnormal action, and, together with that of the auditory canal, pours out a muco-purulent secretion, or even pus itself,—is occasionally raised into vesicles, becomes the seat of pustules, ulcerates, throws out granulations, and becomes thickened, &c., during the progress of this disease. The true fibrous membrane passes through all the pathological changes to which such structures are liable from inflammatory action or its results; and although the precise anatomical condition of the two may not be analogous, yet the diseases of the cornea and of the membrana tympani bear a remarkable analogy, particularly in the subsequent appearances of vascularity, thickening, opacity, morbid deposits, &c., which they present, together with adhesions by bands of membrane to the parts within the chambers, to which they form the external boundaries.

[In these cases, besides heat, pain, and slight redness of the auricle, and in severe cases heat, pain, fulness and œdema over the mastoid region, we find by examination with the speculum, that there is slight tumefaction of the lining membrane of the external meatus, with cessation of its ceruminous secretion.]

The membrana tympani first loses its polish, then its semi-transparency,—becomes in the early stages, and in very mild cases, of a dull yellow, but this is variable and seldom seen; the most usual colour varies through all the shades of red, from a slight pinkish hue to that of a dark damask rose tint, and is caused by the different degrees of vascularity produced by the greater or less intensity of the inflammation.

[The membrane also becomes swollen, and upon its surface we occasionally find vesicles, pustules, ulcers, or even small abscesses; there is exudation of muco-purulent secretion, with detachment of the cuticle; and ultimately perforation of the membrana tympani may take place, from rupture, sloughing, or ulceration.]

Besides the peculiar vascular condition of the membrane already referred to, lymph is very frequently effused between the laminæ, in the substance of its proper fibrous tunic, and there can be little doubt that, in the severe forms of the disease, this morbid product is poured out in large quantity upon the surface of the tympanum, the membranes of which must partake largely of the inflammatory action so visible in the external septum. That these lymphy exudations,—both by thickening the tympanal membrane itself, and by acting in a similar manner upon the lining of the cavity of the tympanum and the parts contained within it, by bands of adhesion within its walls, thus drawing inward and arresting the vibrations of the membrana tympani, curtailing the motions of the ossiculi, injuriously affecting the membranes of the fenestræ, and particularly by impairing the functions of those tympanic branches of the glosso-pharyngeal nerves which ramify on the mucous membrane,—are the principal causes of deafness, I have little doubt.

When rupture takes place, and that accumulations of blood, mucus, or purulent matter, pent up within the tympanum, are evacuated, relief is generally experienced.

In cases where neither rupture nor ulceration has taken place, as the disease advances, the vascularity of the tympanic membrane decreases, first in the centre of its vibrating portion, then around its circumference, and finally along the mallear attachment. The membrane assumes a muddy, yellowish, opaque colour; after this clears off we find it opaque throughout, or in spots; sometimes these opacities can be plainly discovered upon the interior of the membrane, like the speckled opacities seen upon the membrane of the aqueous humour. In other cases, the result of the inflammation is seen in the uniform greyish-white opacity, similar to leucoma of the cornea; and in time, as the superficial polish is restored, the membrane presents a pearly aspect very different from the semi-transparent character of the healthy condition.

A not uncommon effect of inflammation of the tympanum and its membranes, particularly when allowed to run its course unchecked, is a drawing inward of the membrana tympani. In such cases the handle of the hammer forms the most projecting point seen at the bottom of the auditory canal; and the anterior and posterior divisions of the membrane can be distinctly seen forming deeply curved folds upon either side of it. At times the membrane can be elevated to its natural position by inflating the drum through the Eustachian tube; but in such cases, as soon as the pressure from within is removed, it immediately resumes its former position. Considerable discussion has occurred among authors as to the possibility of collapse or falling inward of the tympanal membrane, occurring from shocks or loud noises, &c. This is not the place for investigating that question, but of the existence of the pathological condition which I have thus described, and of its being sometimes the consequence of inflammatory action, I have no manner of doubt. It is a peculiarity I demonstrate to the class at the hospital daily. Mr. Toynbee's dissections confirm my observations on this point, and, in some instances, explain the cause, namely, adhesive bands existing between the back of the membrane and the inner wall of the tympanum.

[In the treatment of this affection Mr Wilde observes that the patient should generally be kept to a warm apartment, or even in some cases confined to bed. General depletion will very seldom be required, but cupping may be advantageously used upon the soft parts behind and beneath the mastoid process, or from the nape of the neck.]

Leeches, says Mr. Wilde, are, however, the most effectual means of abstracting blood and relieving pain in all such cases. They should not, however, be applied in the usual manner behind the mastoid process: to be of service they must be applied with a leech-glass immediately around and within the external meatus; in the fossa behind the tragus, and, if necessary, in front of that prominence, in the hollow formed by depressing the jaw.* From four to six leeches may be readily applied around the meatus, and in this situation they will produce more permanent and immediate relief than three times the number affixed over the mastoid region. The application in front of the tragus is also very much more effectual than upon the mastoid region. When, however, the latter locality becomes itself the seat of inflammatory action, they should also be applied freely all over it. Where we have already recently applied leeches in the two first-mentioned localities, and that the parts have thereby become swollen and irritated, the next most advantageous position is beneath the lobe of the auricle, behind the ramus of the jaw. I do not know any painful affection in which leeches applied in the manner directed produce the same amount of immediate relief, as in the disease under consideration. They should be had recourse to again and again, even upon the same day, to relieve paroxysms of pain, as well as to lessen the degree of redness and vascularity observable.

The application of heat and moisture is particularly grateful in such cases; steaming the ear by holding it over the vapour of some very hot water placed in the bottom of a long, narrow vessel, medicated with hyoscyamus, opium, belladonna, or with the ordinary decoction of marshmallows, camomile, or poppy-heads, if faith be placed in such, gives great comfort. The Russians employ a peculiar apparatus for relieving pain in the ear, consisting of a funnel-shaped roll of linen, the small end of which is applied to the meatus, while the large end, in which various balsamic substances are placed and set fire to, is allowed to burn down slowly like a moxa. A warm linseed-meal poultice renewed every two or three hours, and particularly applied at bedtime, gives great relief. Stupes and fomentations are not, I find, as efficacious in aural as in ophthalmic inflammations.

[Blisters are generally applied too early; they are useful in advanced stages, and may be dressed with mercurial ointment.]

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* A morsel of cotton should be inserted into the auditory canal before applying the leeches; this prevents their going in too far, and also excludes the blood, and keeps it from collecting and clogging within the passage.

Having resorted to all those means, we should, if the symptoms,—not only of pain and deafness, but of the redness and vascularity of the tympanal membrane,—remain unrelieved, at once have recourse to the use of mercury. Indeed I am now so fully convinced, not only of the utility, but of the urgent necessity of employing mercury in these aural inflammations, that I do not hesitate to recommend its use in the early stages of all such affections.

[We may subsequently use the iodide and bromide of potassium, or minute doses of the bichloride of mercury, in preparations of bark. If there should be polypoid growths of any magnitude, they may be removed with the snare. *In no circumstances are we to pour any liquids either stimulating or sedative into the ear.* Mr. Wilde considers this a most mischievous practice; its frequent use may in some degree result from the idea so often entertained by the profession, thatear -ache is a neuralgic affection: but the fact is that true neuralgia of the ear is extremely rare.]

Dublin Quarterly Journal, Nov. 1847, *p.* 393.

MIDWIFERY

AND

THE DISEASES OF WOMEN.

146.—ON THE APPEARANCE OF THE OS UTERI DURING PREGNANCY.

By James Whitehead, Esq., Surgeon to the Manchester and Salford Lying-in-Hospital.

The only test capable of revealing with certainty the existence of pregnancy during its early stages—from a few days after conception to the middle or end of the fourth month, when auscultation first becomes available—is that which the appearance of the os uteri presents to specular examination. During menstruation, the labia uteri are in a state of high vascular turgescence, and the os tincæ, although elongated, and having its boundaries somewhat relaxed, is nevertheless closed and linear, except during the escape of the small menstrual clots before noticed. At the time of conception, the parts are thrown into a precisely similar condition; but no escape of fluid occurs to relieve the turgescence, which consequently continues to increase. In from ten to twenty days afterwards, the whole organ is found considerably enlarged, and the circulation through it augmented both in force and volume; the labia are thickened and apparently elongated, the commissures less distinct, and the *os* appears to be sunk in, or dimpled, owing to the distention and consequent projection of the labia below the level of the orifice. In the fourth week, the *labia* at the centre of their margins, are permanently separated to the extent of one or two lines; and the *os tincæ*, which was before a mere chink with parallel boundaries, is now seen to be an elliptical, or sometimes rounded aperture, which is occupied by a deposition of transparent, gelatinous mucus. At six or eight weeks it becomes decidedly oval, or irregularly circular, with a puckered or indented boundary, having a relaxed and lobulated character.

These changes of form of the lower uterine orifice are evidently owing to distension of the surrounding textures, caused by the increased flow of blood into their structure. The whole circumference of the cervix is enlarged in all its dimensions; the labia become less and less distinct by the simultaneous expansion of the commissures, so that at the stage above-mentioned the existence of the latter is altogether obliterated. After this period the parts present a great variety of appearances, depending principally upon the state of the circulation through the uterine veins. The characteristic trait, however, is always maintained: namely, the patulent state of the orifice, occupied by a transparent gelatinous plug of mucus, and its relaxed, irregular boundary.

The Reviewer says that Mr. Whitehead is quite right in attaching so much importance to the alterations in the uterine orifice, here described as one of the surest signs of pregnancy during the first ten or twelve weeks of gestation, is more than probable. Some of the best obstetrical authorities of the day agree with him. Dr. Rigby, for example, in his excellent system of midwifery, says that "he is inclined to think that the soft feel of the portio vaginalis (of the os uteri) is one of the earliest signs of pregnancy which can be detected by examination:" the transverse fissure or slit of the orifice being, at the same time, rounder and more depressed than it is in the unimpregnated state. And, in another passage, he expresses himself still more emphatically. "In a primipara, the changes, which pregnancy produces upon the os and cervix uteri are generally sufficient to lead to an accurate conclusion. The round dimple-like depression which the os uteri forms, the soft cushiony state of the cervix, are changes which we consider as peculiarly the effects of pregnancy; but their distinctness and certainty cease when the patient has had several children; the irregular shape of the os uteri—its thickened edges, hard here and there—the os tincæ itself more or less open—the cervix scarcely, if at all, shortened, even at a late period of gestation, tend not a little to perplex the diagnosis furnished by this mode of examination; and where disease is complicated with pregnancy, the difficulty is greatly increased, and not unfrequently so much, that scarcely a single satisfactory point will be obtained.

Examination with the finger alone can very seldom be trusted to, to determine the existence or non-existence of pregnancy from the state of the uterine orifice; and for these reasons:

The boundaries of the *orificium uteri* are not constituted of the identical material which formed the margin of the *os tincæ* of the unimpregnated uterus. They consist of the loose cellular and superjacent mucous tissue which was situated, in the unoccupied uterus, two or three lines external to the proper uterine orifice. After conception, these parts become infiltrated with serum; or sometimes the venous loops ramifying within them, are distended with blood, or become varicose; the whole is projected more or less beyond the level of the parts as they existed before impregnation, thus completely obscuring the real *os tincæ*. On examining with the finger, this soft external boundary is very liable to escape notice; the more resisting part of the cervix being sought for, and found higher up in form of a firm ring, dilated certainly, in a very characteristic manner; but not conveying the same idea which the more relaxed external orifice gives when viewed through the speculum. The whole length of the cervix is expanded, from an early period of pregnancy, into a rounded tube, the size of an ordinary writing quill, and in this state it remains, but very slightly altered, until within a month or two of the completion of the term, when it merges itself, by little and little, in the general uterine cavity.

A circumstance is also noticeable in reference to this subject, of which the touch can take no cognizance, and which, even when the speculum is used, may possibly lead the inquirer into error in cases where the state of the os alone is referred to as an evidence of pregnancy. The gelatinous plug which occupies and appears to distend the cervix from an early period after conception, does not remain in that cavity unrenewed: it is always in process of being replaced by a new secretion which is constantly going on; the old deposition being at the same time pushed downwards and dissolved, as it descends, in the vaginal mucus; but in so small a quantity as to escape the notice of the patient under ordinary circumstances. Sometimes, however, the action of the parts is suddenly increased, and the character of the secretion changed. The cervical plug is thus not unfrequently thrown off in a mass, leaving the cavity which contained it unoccupied, and in some measure collapsed, and the external labia fall together. This state of matters, however, is only of temporary duration, as a new supply of mucus is soon furnished, and the cervix becomes distended as before: but if an examination should be instituted at such a juncture, the practitioner, not being aware of the contingency, may be easily led to an erroneous conclusion.

Med. Chirurgical Review, October, 1847, *p.* 391.

147.—*On Turning in Labours rendered Difficult by Distorted Pelvis.*—By Dr. Radford, Manchester.—Whatever practice can safely supersede the *murderous* operation—*craniotomy*, should be adopted. The records of operative midwifery ought not to be stained with so barbarous a procedure, which, according to the present recognised principles of practice, is so unconditionally and so unhesitatingly performed.

Before we have recourse to turning the child to supersede craniotomy, or other instrumental means, we should be fully satisfied that we do not thereby create equal, if not greater, evils. The first question to be settled is, can we safely turn and deliver the child? Here is involved a due estimate of the degree of distortion of the pelvis relatively to the size of the child's head, and likewise the condition of the maternal organic structures. Can we, then, measure with such mathematical accuracy the pelvic diameters, as to decidedly pronounce that the head of the child in utero will pass through unopened. If, after turning and extracting the body of the child, we cannot bring the head through the brim of the pelvis, we shall be compelled to use the perforator, which will now be attended by increased difficulty and danger, after having already exposed maternal structures to great hazard, by an unwarrantable operation. Perforation of the head of the child can be more safely and more easily performed, when it lies over, or partly within, the brim of the pelvis, than when the cavity is occupied by the body, as it is in footling cases. Is there not great danger of fallacy in computing the admeasurement of a distorted pelvis? From my own experience, I am fully convinced there is: I mean, relative measurement, especially when slight distortion only exists.

Can we always deliver by turning? Certainly not. One of the cases mentioned by Velpeau illustrates this fully. It would be highly culpable to attempt turning with the passages undilated and undilatable, or when the liquor amnii has been some time discharged. Under either of these circumstances the child would perish.

Does turning give the child a better chance than might be afforded by other measures? As regards the crotchet, the answer is plain; but the long forceps, in the great majority of cases of slight contraction of the pelvis, may be more advantageously had recourse to.

Will the head pass through a less pelvic space when its base comes first, as in footling cases, than when the vertex presents? My opinion is, that it will not, unless such unwarrantable force is used as to risk the separation of the body from the head, leaving the latter in the uterus.

It has been, however, said, that the neck of the child alive, or recently dead, is so strong, as to allow such a degree of force to be used, as to greatly compress the sides of the cranium; but such a procedure is at variance with all scientific views, and incompatible with the safety of both mother and child.

Does the head elongate more readily upwards than downwards? If only the same degree of extractile force is used, it does not, and certainly not so safely to the child. But assuming that the child's head elongates as readily, if not more so, in footling cases, than in presentation of the vertex, we know that the funis is subject to fatal compression in the former,—which danger is greatly increased in cases in which the child has been turned, on account of distortion of the maternal pelvis.

Can the head of the child be adjusted and better adapted to pass through the widest portion of the brim of a distorted pelvis, by means of the leverage its body affords after it has been turned, than by any other means? Velpeau has great reliance on the advantages of turning in these cases; but unless all contingent circumstances are favourable for its performance, the operation is most certainly hazardous to both mother and child.

Provincial Med. and Surg. Journal, July 28, 1847, *p.* 403.

148.—*Case of Spontaneous Evolution.*—By J. JONES, Esq., Llanfair. I was summoned to a woman in labour of her fifth child. I was informed the membranes had broken three days previously. The patient had always had an expeditious and safe delivery, without assistance. Some hours before my visit an arm had presented itself. On my arrival, I found the shoulder so firmly impacted within the brim of the pelvis, that the impracticability of turning was palpably evident. There was no hæmorrhage; slight, continuous, uterine action, but no symptom of exhausted strength. I at once determined to resort to the method recommended, and first extensively and successfully practised, by the elder Ramsbotham; and, as far as my experience goes, it is the safest and most available practice in such untoward circumstances—that of perforating, and subsequently eviscerating, the chest and abdomen. I accordingly introduced a large perforator between the ribs. Scarcely had the instrument entered the thorax, when a severe expulsive pain came on. In the meantime,—it was the work of a second,—the body of the child receded, the arm followed, and I had barely time to withdraw the instrument before the breech presented. A few minutes afterwards the labour was over, and the woman recovered without an unfavourable symptom.

Lancet, August 21, 1847, *p.* 199.

149.—*On Funis Presentations.*—By James Stephens, Esq., Surgeon to the Manchester and Salford Lying-in Hospital.—[It is notorious that when the cord descends during labour, the life of the child is in most imminent dnger; could the cord be returned and held up until the head has passed through the os, the danger would be averted, but hitherto, no generally applicable or successful method of doing this has been proposed. Mr. Stephens has invented an instrument for the purpose, which, from that gentleman's extensive experience, deserves the attention of the profession. He says,—]

The instrument I propose to be employed, to carry the cord again into the uterus, consists of a small forceps fixed to a strong wire passing through a gum-elastic tube fourteen inches in length, about the size of a common No. 8 male catheter; the apex is tipped with a small metallic ring to prevent it splitting. When the wire is drawn down, the blades of the forceps close by being compressed in the aperture of the ring at the apex of the tube, and it is satisfactory to see how firmly it takes hold of anything to which it is applied. The lower end of the wire is screw-like, and has a small metallic nut placed upon it, which can be screwed up to the ivory handle, by which means the grasp of the forceps is firmly maintained.

It is important to attend to this, because the slightest movement of the stilette might raise the forceps, allow the blades to separate, and release the cord. The tube is slighty curved at the upper end, to facilitate its being passed round the head of the child. Its flexibility will admit of any variation of curve which may be deemed necessary.

The grasp of the forceps can be released in a moment by unscrewing the nut of the wire a little, and passing it upwards, when the blades immediately separate. The small size of the instrument renders its introduction easy, and it can as easily be withdrawn, after having carried the cord into the uterus.

The important principle of the instrument consists in only taking hold of a small portion of the coverings of the cord, leaving the vessels untouched; indeed, the blades never separate wide enough to admit the whole substance of the funis—an accident which would certainly destroy the child.

The instrument is so simple and harmless, that no danger can result from its use; and from the small size there is little fear of the cord following during the withdrawal, which might occur if a larger one was employed, as frequently happens when the fingers are used. It can be applied at any time after the descent of the cord, whatever may be the state of os uteri, and thus will be successful in those cases where turning or the forceps are totally out of the question; for it would be extremely hazardous to forcibly dilate an unyielding os uteri, or to make violent efforts to turn when the liquor amnii has been long evacuated, and the uterus is strongly contracted upon the body of the child. The probability is, the child would be lost, and the operation certainly exposes the mother to the danger of laceration, inflammation, &c. If the cord is examined when prolapsed, it will be found very tense, especially during the uterine contraction; the external circumference is rounded and firm, from the congested state of the umbilical vein, nor could it be easily seized by the instrument at that part; but on the inner circle of the loop the coverings are flaccid, and can be readily taken hold of by the minute blades of the forceps.

I feel assured it will be found very difficult to fix the forceps whilst the cord is in the vagina; therefore it would be better to draw the loop a little way beyond the external parts at once: it is more safe to adopt this plan, because much handling of the cord impedes the circulation, and endangers the life of the child. The patient may be allowed to lie in the usual obstetric position on her left side; the operator must fix the forceps during the absence of a pain, seizing only a small portion of the coverings of the cord, and carefully avoid including the vessels, as before described; then pass the prolapsed portion into the vagina, through the os uteri, carefully round the head of the child, onwards steadily to the fundus of the uterus, if possible, or, at least, so far as to preclude the possibility of any portion remaining between the head and the inlet of the pelvis. If any limb of the child is met with, a little management will enable the operator to evade it, by varying the direction of the instrument. If a pain should come on, it will be necessary to remain passive until it ceases, and then proceed. Having succeeded satisfactorily in carrying the cord into the uterus, it should be steadily held there during the next uterine paroxysm, and the probability is, the presenting part will occupy the lower portion of the uterus sufficiently to prevent the cord descending again. The forceps can now be loosened by unscrewing the nut of the handle, and pushing up the stilet, which sets the cord at liberty, when the instrument may be withdrawn, and the labour allowed to proceed as if no such complication had existed.

It will be important to keep the woman strictly to the recumbent position, and forbid her to make any voluntary bearing-down effort, but allow the pain to pass over as quietly as possible. I should strongly advise the practitioner not to make any attempts to replace the cord by the hand before he obtains possession of the instrument, which should be immediately sent for; but in the meantime, take care that the cord does not protrude beyond the external parts, and be exposed to the effects of cold.

Lancet, Aug. 21, 1847, *p.* 196.

150.—INSTRUMENT TO PROTECT THE FUNIS IN FUNIS PRESENTATIONS, &c.

By Dr. Joos, Shaffhausen.

The application of the instrument in question takes place during the act of birth, by presentation of the breach or feet, in cases in which delivery is effected by version and bringing down the feet, and in which a fatal pressure on the umbilical cord is to be feared in cases where the cord is prolapsed and cannot be returned.

The purpose of its application is to secure the cord from such pressure, to maintain the circulation in it, and thus prevent the loss of the child. This purpose is attained in many cases by introducing the umbilical cord into one or two elastic tubes, of sufficient strength to resist external pressure, and by placing this tube, or tubes, between the head of the child and the pelvis of the mother.

In order to introduce the umbilical cord into the tube, the following arrangements are made:—The tube is open on one side by a slit; this linear opening can be enlarged in such a manner, by a finger or otherwise, that the umbilical cord may be introduced into the interior of the cylinder, by means of the other fingers, or any other manipulation. The instrument acts in such a manner, that after a portion of the umbilical cord has been introduced, the enlarged slit instantly returns to its normal position.

The following example may serve as an illustration of the mechanism:—Imagine a quill cut transversely at each extremity so as to form a hollow tube, and slit lengthwise from one end to the other. If into this slit the blade of a penknife, or any other instrument acting as a wedge, be introduced and drawn downwards, it is evident that the inherent elasticity of the quill will close the slit immediately behind its enlargement by the knife or wedge: so evident is it, that it may be possible to introduce a fine cord into the cavity of the quill, by making use of the triangular space behind the wedge. An analogous process takes place in the instrument in question: instead of the quill there is the instrument itself; instead of the wedge there is the finger; and in place of the fine cord we have the umbilical cord.

It will be necessary during the introduction of the cord to introduce two fingers into the opening, and at such a distance from each other that the cord may be between them, and thus shielded from any injury which the approximating edges of the opening might occasion.

The substance of the instrument consists partly of caoutchouc or leather; to combine flexibility with the greatest possible resistance to external pressure, there are imbedded in the body of the tube, a series of steel rings, three lines broad, and applied in such a manner, that between every two rings the space of a line remains. The rings are of course not entire, their periphery forming almost 11-12ths of a circle, the remaining twelfth corresponding to the slit. It need scarcely be said, that the rings are firmly united with the caoutchouc or leather, and that neither the surface of the interior of the tube nor the slit will present any irregularties; these parts being lined with caoutchouc or covered with any other convenient substance.

The calibre of the cylinder is just large enough to admit the cord; if there are knots in the cord the instrument could not be applied; its length may vary, according to circumstances, from four to eight inches. An operator should be provided with several, of different diameters. In order to maintain the instrument in its situation in the pelvis after its introduction, a handle made of whale-bone may be affixed to one extremity, or the tube itself lengthened in the manner of a pen, the half of which has been sliced away.

The great resistance of the steel rings will not permit one border to ride over another; this inconvenience is also prevented, by having the surface of one border convex, and that of the other concave, and thus fitting into each other; or else the rings might be strongly magnetized, by which the negative pole of one border would adhere to the positive of the other.

Some contusions of the head can scarcely be avoided, especially if (as in prolapsus) the operator should be obliged to introduce two tubes. However, in difficult extractions by the forceps similar accidents are unavoidable, and it is at all times more desirable that a living child should be born, although it may have suffered a contusion, as otherwise it will, in great probability, be born dead.

Medical Gazette, Oct. 22, 1847, *p.* 720.

151.—*On Puncturing the Membranes to Produce Abortion.*—By T. Salter, Esq., Poole.—[Mr. Salter recommends an instrument invented by his son for the purpose of puncturing the membranes in the early months of pregnancy. He says,—]

It consisted of a flexible gum male catheter, but of sufficient firmness to preserve its straight form, even when opposed to a moderately-existing body, having a perforation at its extreme point, just large enough to allow a common wire stilet to pass through.

The patient, lying on her left side, and near the edge of the bed, the catheter was introduced into the vagina with the right hand, and pushed forwards upon the anterior surface of the fore-finger of the left, and in this manner it readily entered the os uteri, and passed through the cervix; withdrawing the finger from the vagina and os uteri, the instrument was pressed forward until it met with steady resistance. The stilet was then introduced and passed on, making its exit at the opening prepared for it, when it was immediately found to have perforated the membranes. Renewed pressure being then made upon the catheter itself, that also entered the cavity of the amnion, and on withdrawing the stilet the liquor amnii flowed in a full and continuous stream, as urine is observed to do from a catheter introduced into a distended urinary bladder. The fluid collected amounted to about a pint and a half. Nothing could have been more successful than the use of this simple instrument, and I would venture to recommend its employment to my professional brethren, as equally adapted for the purpose for which it was had recourse to, as the ingenious cutting instrument contrived and recommended by Dr. Ramsbotham, which I did not happen to possess, and the use of which, in unskilful hands, might not altogether be unattended with danger, and be especially hazardous in cases where the cervix and os uteri are undeveloped, as in the present instance.

Provincial Medical and Surgical Journal, June 30, 1847, *p.* 347.

152.—*New Mode of bringing on Premature Delivery.*—By M. Cohen, Hamburg.—[M. Cohen thinks that injections, which have great power in developing contractions of the uterus, may be advantageously used in bringing on premature delivery.]

In the carrying out of his plan, M. Cohen has used a common small syringe, holding from one ounce and a half to two ounces of liquid, and furnished with a canula eight or nine inches in length, about one-eighth of an inch in diameter at its extremity, and curved like a female catheter. The patient is placed on her back, and the pelvis slightly raised. Two fingers are then passed into the vagina as far as the posterior lip of the uterus, in order to guide the canula, which is introduced between the anterior wall of the uterus and the ovum. The free extremity of the syringe is now lowered so as to allow the canula to glide under the pubic arch until it penetrates about two inches into the uterus, and at this point the injection is begun. The fluid is injected slowly and gently, taking care so to raise the syringe that the extremity of the canula may not abut against the wall of the uterus, and to vary its direction whenever any obstacle occurs to the escape of the liquid; the syringe is also withdrawn by degrees. Ten minutes afterwards, the woman may get up and walk about. If at the end of six hours there is no sign of approaching labour, the operation may be repeated.

Dr. Cohen has used for injection tar-water, which fluid he has also employed to diminish excessive secretion from the uterine surface. The author gives a case in which he resorted to this plan of injecting with success, it was one of contracted pelvis--contracted in all its diameters, and hardly equal in size to that of a young girl twelve years old. This woman's first delivery was accomplished by craniotomy and the forceps; and M. Cohen advised, in the case of a second pregnancy, to induce premature labour, which was accordingly done by him, when the woman was the next time with child, according to the preceding plan, and after two injections were performed, at an interval of six hours. The child was born footling, and survived; and the mother had a very favourable convalescence.

Lancet, Sept. 25, 1847, *p.* 337.

153.—*A Rare Case in Midwifery.*—By Dr. OLDHAM, Guy's Hospital.—[A woman æt. 41, who had had several children, and a large number of miscarriages, was again pregnant and at her full time in June, 1845. On the 26th of that month she had flooding to the amount of a quart, without any active pain; and the os uteri was closed. Dr. Oldham saw her on the 30th, when she complained of diffused tenderness of the abdomen; the uterus was found properly developed, and the cervix short; the os admitted the finger, and the head covered by the membranes could be felt through it. Dr. O. says:]

The patient drew my attention to the mammæ, which had become swollen and hard; and, on examining them, they had all the appearance of the breasts at the third day after delivery, and milk could be freely expressed from them. When first I heard the history of this case, I fully anticipated that there was an extra-uterine conception, which the last-mentioned symptom tended to confirm; but on again carefully examining the abdomen, there could be no doubt but that the uterus was gravid, and, as far as could be ascertained, normally developed. By auscultation, neither the fœtal heart, uterine sound, nor active fœtal movement, could be detected; and the death of the fœtus was hence inferred.

[It was determined to wait for spontaneous uterine action; the abdomen was fomented, the breasts ordered to be emptied by sucking, and salines with calomel and Dover's powder given. On the 12th July it was found that for ten days there had been fœtid discharge, with occasional puffs of gas: she was getting weaker; the parts of the fœtus could be felt through the abdomen; the os admitted two fingers, and the head bones of a decomposing fœtus could be felt through it.]

There had been no uterine action. Our efforts were now directed to empty the womb. At first, a decoction of the ergot of rye, with subborate of soda, and occasional friction over the abdomen, were fully tried, but without the slightest effect on the uterus. I then attempted artificially to dilate the womb, with the two-fold object of endeavouring to excite uterine action by pressure on the cervix, and to enlarge the orifice itself. I found, however, that although two fingers could be passed into the os, I could not possibly dilate the cervix to any further extent: its tissue seemed, when thus stretched, to be dead and unyielding. Galvanism was then resorted to, and was applied for more than half an hour, over the external surface of the abdomen, in an oblique and vertical direction; and then the shocks were directed through the uterus, one of the conductors being placed within the vagina, on the cervix of the womb, and the other externally, near the umbilicus. She bore the shocks without much complaint, but the uterus remained perfectly passive. A great deal of decomposing matter and gas were released from the womb by passing a small hook through the os and breaking up the brain, and injecting a stream of warm water within the cavity, which was frequently repeated. On the 17th of July, on making an examination, I found that I could catch between the tips of my fingers a portion of loose skin, which I took to be the detached scalp, and after a little management I removed it. I found that it was the placenta, with the umbilical cord, in a loose and putrid state. During this time a constant discharge of an olive-coloured fluid was going on, and the abdominal tumour was sensibly diminished. With this shrinking of the womb the cranial bones, which had always been felt at the os seemed to be removed, and I found I could touch the fingers of one hand. I caught one of them with a pair of dressing forceps, and contrived to draw the arm into the vagina. This afforded me a firm hold, and I endeavoured, by steady yet firm traction, to dilate the os; but I found that it was quite impracticable, and I felt persuaded that the uterus would give way rather than yield. The arm was afterwards cut off. At subsequent visits, portions of the fœtus were carefully removed with a pair of dressing forceps; the bones loosened, and were easily detached; and in this way the ribs, the greater part of the spine, and some bones of the other arm were drawn through the os uteri. The abdomen daily diminished in size, the discharge lost its fœtor, and became puriform. During this time her powers were kept up by ammonia and bark, with small sustaining doses of opium. She took nourishment pretty well, and, with these encouraging symptoms, I hoped that ultimately the fœtus would be entirely removed, and that she would recover. Towards the end of September, however, she appeared much emaciated and very feeble; the abdomen was tender, and she complained of severe pain in passing water. The size of the abdominal tumor was reduced to that of an orange, and it was noticed that it had become harder, more compact, more defined, and that it was to be felt close behind the abdominal parietes. I expressed my conviction that the uterine wall had ulcerated through, just as an extra-uterine cyst would do, and that the fœtal bones had escaped into the lower part of the abdominal cavity; and that probably, from the extreme pain in passing water, the bladder was being implicated. She now began to sink rapidly; there was frequent vomiting; and she died on the 26th of September, three months from the time when labour should have come on.

Permission was given to examine the abdomen, which I did on the following day, in company with Mr. Amsden and Mr. Cleveland.

The body was much emaciated; but there was a layer of fat on the abdominal walls which remained unabsorbed. The small intestines were distended with flatus; and here and there were some delicate flakes of recently-formed lymph, with a sparing quantity of serum. The abdominal viscera generally were healthy. On dividing the central line of the abdomen below the umbilicus, a cyst was opened, which contained a number of bones, closely set together, with a quantity of thick, dark-coloured putrilage. This cyst, with the pelvic viscera, were removed for further examination.

The cyst, which accurately covered the mass of bones, was formed in front by the lower part of the abdominal walls and the bladder: it was covered in above by the small intestines and omentum, which had adhered together, but so feebly that they were readily separated; whilst the back part of the cyst was formed by the posterior wall of the cavity of the uterus. The uterus itself was reduced, when measured behind, to about four inches in length. The body was bent back, and muffled by false membranes, and the os uteri was large enough to admit the forefinger. The whole of the anterior wall of the uterus was absent, leaving only the front lip of the cervix to complete the os uteri; and thus the mouth of the womb formed the outlet of the sac, which contained the bones. The bladder was so thinned in one part, as to be quite translucent, and all but perforated. The left ovary was healthy, but the appendages on the right side were so matted together, as to prevent their being separated. The bones, which were those of a full-grown fœtus, were taken out and dried: they were quite clear of soft parts, and formed a dense, compact, oval body.

Remarks.—The foregoing case is one of great rarity in midwifery. It appears to have been an instance where a female carries a child in the womb to the full period of gestation; but the process of labour is literally missed, and lactation follows on the completion of gestation. The womb then remains passive, and incapable of being excited to act. It holds the fœtus as an extra-uterine cyst does, shrinking, however, gradually with the lessening of its contents. The anterior wall of the womb then ulcerates, and portions of the fœtal bones, having escaped into the peritoneal cavity, seek an egress through the nearest hollow organ—the bladder—and the patient sinks before the process is accomplished.

Guy's Hospital Reports, 1847, *p.* 105.

154.—*Case of Complete Closure of the Vagina, with subsequent Conception and Parturition.*—By Dr. R. P. Simmons, St. Louis, U. S.—[In March, 1846, Dr. Simmons was consulted by a respectable married woman, on account of a mal-condition of the sexual organs, which occasioned her much uneasiness. She stated that in July, 1844, she had a protracted and difficult labour, which was followed by sloughing of the soft parts; and that in the November following she found she was the subject of complete closure of the vagina, which had continued ever since. Since her confinement *she had never failed to menstruate* at her regular periods, until the last, which was about the middle of March, 1846. Dr. Simmons says,]

Mrs. W. willingly submitted to an examination, with the hope that something could be done to remedy the defect. Accordingly she was placed on the bed, with the thighs elevated and the parts properly adjusted to the light. On proceeding to the examination, we could perceive nothing defective or unnatural in the labia externa, clitoris and fourchette, but on separating the labia to their fullest extent, we found the nymphæ almost entirely obliterated, and a dense fibrous structure presenting to our view, extending from the orifice of the urethra to the fourchette, and across from the base of one labium to that of the other, blocking up the mouth of the vagina completely, and resembling more than anything in appearance the palm of one's hand, when in an extended position. Dim tortuous lines of cicatrices were perceptible, and the whole surface of this structure presented to the touch a smooth, dense, elastic feel, but no opening or cavity whatever could be perceived. Impressed as we were, however, that an orifice or orifices did exist, from the circumstance of the menstrual discharge not being interrupted, we continued the examination for more than an hour with the greatest care and minuteness; used the smallest sized probes, applied them to every point of this structure, and in every direction to its surface; also to the rugæ of mucous tissue lining the clitoris, fourchette, and orifice of urethra, but we were unable to discover a single orifice or fissure communicating with the cavity of the vagina or uterus. The orifice of the urethra was of usual size, and occupied its natural situation—admitting the easy introduction of a medium sized catheter and its ready passage to the bladder. Our attention was then directed to the exploration of the urethral canal, believing it possible that a fistulous orifice might be found near the opening of that tube, through which the menstrual fluid made its way from the uterus. Probes of various forms and sizes were used, but without obtaining the object of our pursuit; and ascertaining from the woman, that at no time during her menstrual flow did she perceive the discharges, either per urethram or per anum, even in the slightest degree tinctured with that fluid, we declined the further prosecution of our inquiry.

[Dr. S. deferred giving an opinion as to the propriety of an operation; when in the latter part of the July following, the woman's husband called upon him to state that his patient began to suspect herself pregnant. Although Dr. S. could not feel the active motions of the fœtus, (no mention is made of the employment of auscultation,) yet from the woman's account, and the concurrent appearances, he believed her suspicion to be correct. On the 3rd of September he made a second most minute examination in the presence of a professional friend, but was unable to detect the slightest orifice communicating with the vagina, either from the external parts, or from the urethra. On the 20th of October, the woman had pain in the back, and sent for Dr. Simmons, who now felt the fœtal movements. He says,]

During the continuance of a pain I made an examination per os externum, and found the structure referred to presenting to the touch the same feel that it did on former examinations. There was no fulness or distension of the parts which the descent of a fœtus and collected waters within the membrane would indicate; I was, however, fully convinced that the poor woman was pregnant, and presuming, on her own calculations, that she had not arrived at her full period of gestation, I took from the arm ℥xx. of blood, and gave tinct. acetatis opii gutt. xxx. She was much relieved, and continued comparatively easy for several days, but the annoying pains returned, and continued with more or less severity up to the time of her accouchement.

On the 19th of November, at six o'clock, A.M., I was summoned to visit Mrs. W. in haste. On entering her apartment I found her in strong labour, and on making an examination per os externum, I discovered a fulness with great tension and pressing down of the smooth fibrous structure blocking up the vagina; and this condition of the parts increased on the return of every succeeding pain, till in the space of two hours I could perceive evident fluctuation of the waters within the membranes, and by forcible pressure with the fingers could feel a hard body low down in the pelvis, which I supposed was the head of the child.

Not feeling disposed to assume the entire responsibility of this extraordinary case, and besides desiring to afford the professional gentlemen who had previously examined the condition of this woman, Drs. Barnes and Campbell, an opportunity of witnessing the issue of the case, they were ordered to be sent for. In the mean time the parturient pains continuing with powerful force, the patient was placed on her back, with the thighs separated, and opening the labia-externa with the thumb and fingers of the left hand, I carefully divided the integuments with the scalpel to the extent of one inch, commencing the incision at the most prominent part of the tumour, and on a direct line from the orifice of the urethra to the perineum. The structure divided was about three-fourths of an inch in thickness, and of a firm fibrous texture, clearly indicating that the occlusion was not the result of simple adhesion of the sides of the vagina, but the new formation of tendinous tissue. Whether the membranes containing the liquor amnii had previously ruptured, or whether they were punctured with the point of the scalpel, it is impossible for me to know; at any rate, on passing through the structure with the knife, there was a free jet and flow of water for a moment, and also considerable hemorrhage, but this was not to an alarming extent, having its source principally in the great vascularity of the parts surrounding and closing the vagina.

I was now able to ascertain the condition of the os uteri—found it dilated to the size of a twenty-five cent piece, the margin thin and of a natural feel, with the head of the child presenting. By this time Dr. Campbell arrived, (Dr. Barnes not having received the notice,) when we dilated the incision previously made to the extent of two inches, by carefully dividing fibre by fibre, with a well guarded probe-pointed bistoury, cutting both anteriorly and posteriorly. The pains continued with wonderful force, and the os uteri dilating, we soon were able to perceive the hairy scalp of the child, and ascertain more clearly its position, which was the posterior fontanelle to the symphysis pubis. The soft parts readily and safely dilated as the head advanced; and although the labour was both tedious and laborious, until the head emerged from the inferior strait of the pelvis, not an untoward event occurred, and the woman was safely delivered at five o'clock, P.M., same day, of a well formed and living female child, weighing eight pounds. At this date (January 2nd, 1847,) both mother and child are living and doing well, and the poor woman feels doubly compensated for all her past afflictions, by the entire removal of her physical impotency, and the new source of moral happiness which has been lighted up on becoming a mother.

It may be proper to add, that great care was paid to the subsequent management of this case, and by means of a tent and other necessary applications, the newly formed vagina has been maintained. Suppuration has entirely ceased, and new mucous tissue partially formed on the internal sides of the divided structure.

The physiological questions involved in this case are—how did the menstrual fluid make its exit from the uterus, and by what law of the animal economy did conception take place? The woman's own statement, (her husband also concurring in the same facts) was, that since recovery from her long confinement in 1844, which was about the end of November of that year, her condition had been at no time different from what it was at my first and subsequent examinations; yet, notwithstanding, she menstruated regularly up to the middle of February, and at that time was as much unwell as usual.

She could give no account of it, except that the discharge issued from between the labia externa; was small in quantity, continued about three days, and during these periods she never experienced any pain or difficulty whatever. Here I must express another regret—that in the investigation of this case, I never had an opportunity of observing the appearance of the parts during menstruation, which at the time I made my first examination it was my settled purpose to do at the next or some period of their flow, not having the most distant idea that pregnancy was the cause of their suppression.

Was there a vicarious secretion from the inner surface of the labia pudendi and contiguous parts, or did the menstrual fluid permeate through the fibrous structure blocking up the vagina? I am inclined to adopt the latter opinion, although we were unable, on the minutest examination, to detect that condition of the surface which such a process would indicate.

In contemplating the curious phenomenon of conception in this case, I find on the very outset of the inquiry, the physiological views I had long entertained on the subject are subverted, and not feeling prepared to attempt an elucidation of that wonderful and mysterious function of organic life—conception—on any other principle than that of the actual presence of the semen masculinum within the cavity of the uterus, I will submit the rationale of this singular case to those who are deeper read in nature's laws, and whose province it is to demonstrate the occult mysteries in physiological science.

Medical Examiner, (U. S.) *Feb.*, 1847, *p.* 79.

155.—*On the Influence of the Periods of the Day upon Births and Deaths.*—By Professor CASPER, Berlin.—1. The greatest number of births occur between nine o'clock in the evening and six o'clock in the morning; while the smallest number occur between nine o'clock in the morning and six o'clock in the evening.

2. The pains of labour commence most frequently between twelve o'clock at night and three o'clock in the morning; least frequently from six to nine in the morning.

3. The influence of night is more marked with respect to the commencement of labour-pains than with respect to complete delivery.

4. Among those births in which the pains commenced by day, the greater number were male children, and vice versâ.

5. On an average, delivery was more protracted when the pains commenced by day than by night.

6. The preponderance of nocturnal over diurnal births is more striking in respect to children born dead, than in respect to those born living.

7. The maximum mortality occurs in the hours before noon, and the minimum mortality in the hours before midnight.

8. Individually regarded, the ratio of deaths from inflammations, phthisis, and pulmonary hemorrhage is greater in the afternoon; from fevers and exanthemata, just before midnight; from cerebral apoplexy, during the day; and from diseases of the nervous system in general in the hours which immediately follow midnight.

British and Foreign Med. Review, *July*, 1847, *p.* 117.

156.—CONDITIONS TO BE OBSERVED IN ETHERIZATION.

By Professor SIMPSON, Edinburgh.

[It seems probable that the use of ether will be superseded by that of *Chloroform*, or the perchloride of formyle, which Dr. Simpson has discovered to possess many advantages over ether. The learned Professor's article on this subject will be found amongst those of etherization.

The following are given by Professor Simpson as the conditions necessary for producing successful etherization, and which it is highly important to observe.]

First, the patient ought to be left, as far as possible, in a state of absolute quietude and freedom from mental excitement, both during the induction of etherization, and during his recovery from it. All talking and all questioning should be strictly prohibited. In this way any tendency to excitement is eschewed, and the proper effect of the ether inhalation more speedily and certainly induced. And, secondly, with the same view, the primary stage of exhilaration should be entirely avoided, or at least reduced to the shortest possible limit, by impregnating the respired air as fully with the ether vapour as the patient can bear, and by allowing it to pass into the lungs both by the mouth and nostrils, so as rapidly and at once to superinduce its complete and anæsthetic effect. Latterly, I have found, that for surgical purposes, and when it is not necessary to keep up the etherization above five or ten minutes, by far the best and most perfect inhaler is formed by a large sponge of the common hollow conical shape, perforated artificially with a pretty large aperture at the apex, and placed over the face like a mask, so as to include both the mouth and nose in its concave base. At first, it should be held at a little distance from the face, and afterwards gradually advanced to it, in order to avoid exhibiting the vapour in too powerful and irritating a form for the first few inspirations. Its interior should, immediately before using it, be fully and freely saturated with ether—a very common but certainly a very unpardonable error being to exhibit an imperfect and exciting, instead of a perfect and narcotizing dose of the vapour. Many of the alleged failures and misadventures are doubtless entirely attributable to the neglect of this simple rule; - not the principle of etherization, but the mode of putting it in practice being altogether to blame.—But thirdly, whatever means or mode of etherization is adopted, the most important of the conditions required for procuring a satisfactory and successful result from its employment in surgery, consists in obstinately determining to avoid the commencement of the operation itself, and never venturing to apply the knife until the patient is under the full influence of the ether-vapour, and thoroughly and indubitably soporized by it.

Monthly Journal, Sept., 1847, *p.* 153.

157.—ON THE USE OF ETHER IN MIDWIFERY PRACTICE.

By Dr. Protheroe Smith, Assistant Teacher of Midwifery at St. Bartholomew's Hospital.

[Besides its use in surgical operations, ether has been successfully employed in favouring the reduction of dislocations and of herniæ, and in relieving spasmodic stricture; and has been given with advantage in neuralgia, spasmodic asthma, colica pictonum, puerperal mania, dysmenorrhœa, hysterical pains, and various spasmodic diseases.

In investigating the probable advantages of employing ether in midwifery practice, we must remember that "of the usual nervous concomitants of labour, consciousness, pain, and spinal reflex action, may be wanting, and yet parturition proceed uninterruptedly." Now Dr. Smith remarks that:]

Ether will first derange, and then temporarily suspend, in succession, consciousness, special sensation, common sensation, pain, (which is certainly something different from common sensation—*i.e.*, tact,) power of muscular combinations, spinal reflex actions, and respiration. It is doubtful whether it will not, in some cases at least, increase ganglionic nervous power. It is certain, however, that if the medulla oblongata is completely etherized, and consequently, the movements of respiration stopped, the action of the heart is speedily arrested also, and life becomes extinct.

Pain is one of the greatest elements in the shock of labour. It is probable that all parts of the nervous system share in this shock. Now, if the effects of ether can be so regulated as to be confined to the brain and spinal marrow, there would be left only those portions of the shock which are seated in the medulla oblongata and ganglionic system. I think we should not be justified in refusing the abolition of part, because we cannot destroy the whole of any evil. Again: we do not know the exact proportion in which the various parts of the nervous system share the shock; we only know that pain is a large element of it.

To the question, how far should we carry our etherization, I would answer, in ordinary cases of labour, merely till the cerebrum and pons Varolii are under its influence, as shown by the suspension of intellect, and of the perception of pain; but in cases requiring extraordinary manipulation or operations, we ought to bring the cerebellum and medulla spinalis into temporary narcotism, to prevent, as far as possible, the violent muscular movements which, when the control of the will is suspended, might be productive of mischief.

[In a case to which Dr. Smith was summoned by Mr. Alder Fisher, and to which he was accompanied by Mr. Tracy, the patient had been in labour fifteen hours; for the last eight hours the pains had been strong and severe, and she complained greatly. Dr. Smith says,—]

On a vaginal examination, the passage was found to be cool and well lubricated; the os uteri dilated to the size of the rim of a teacup, and the child presenting in the first cranial position. The head rested on the floor of the pelvis, and forcibly pressed, during each pain, against the converging tuberosities of the ischia, the distance between which was barely four inches. The membranes were entire and distended with liquor amnii; they protruded through the opening os, the margins of which were rapidly yielding; the uterine structure was soft and dilatable. Being satisfied that there existed no abnormal complications to forbid the inhalation of ether, its exhibition was commenced by Mr. Tracy, at a quarter-past four P.M., immediately after the spontaneous rupture of the membranes. At this time, a pain was coming on, which proved to be very violent, and was attended with considerable straining, and some retching.

The ether, in three minutes, produced insensibility to suffering, although the pains continued as strong as previously to its application, and recurred regularly every three minutes. The patient occasionally gave rational answers to questions, and stated that she had scarcely been conscious of any pain since the administration of the etherial vapour; her friends who were present could hardly credit her report, as no difference in the violence of her efforts, or in the character and severity of the uterine contractions, could be remarked.

The following notes of the farther progress of the case were taken on the spot:—At half-past four, P.M., the uterine contractions have recurred at intervals of three minutes only, though the patient has remained perfectly narcotized for the last quarter of an hour. During these pains, which were very powerful, the legs were at times forcibly extended, and the right arm raised, and all the usual straining exclamations during expiration, continued as before. On placing my hands upon the abdomen, I became sensible of the powerful contraction, not only of the uterus, but also of the abdominal muscles. The os was now fully dilated. Forty-three minutes past four P M.: since the escape of the waters, she has had pains every two or three minutes, and her cries are loud, sharp, and expressive of severe expulsive efforts. In the intervals of pain, the child's head rests on the perinæum, (producing a distention of its right side, and of the corresponding labium pudendi,) and is closely embraced by the bony outlet. The pains are of short duration. Pulse 84, soft and compressible; skin freely perspiring. Fifty-three minutes past four P.M. During the last five minutes, the inhalation has been discontinued, and there has been an intermission of uterine contractions for four minutes. In reply to inquiries, she again says she has felt scarcely anything since the ether has been employed. Thirteen minutes past five P.M. For the last twenty minutes, the ether has been administered only during uterine action, the intervals between which have been only two or three minutes. She occasionally cries out as if in slight pain, but when interrogated, states she is "perfectly easy and comfortable." Fifty minutes past five P.M.: The pains have continued every three minutes, but have produced no apparent effect on the head, which is firmly fixed at the outlet; the amount of straining effort, the peculiar cry, and the expression of the face, seems to betoken great suffering during her pains, but she again asserts that she is "easy." The ether was now again suspended for ten minutes, when she had three uterine contractions, and became sensible to pain. Half-past six P.M.: Under the influence of the ether, in the last half hour she has had twelve pains, and has been wholly unconscious of them. The head is still fixed at the outlet. Forty-five minutes past six P.M.: During the last ten minutes the ether has not been employed, and the pains have been precisely of the same character as when she was inhaling; she also states that they are productive of much agony. As the head had made no advance, and had been firmly impacted for half an hour, the cranial bones overlapping considerably, I determined, after ascertaining by the stethoscope that the child was alive, to apply the short forceps. This was accomplished at seven P.M., after emptying the bladder, and again narcotizing the patient. It was evident, from the extent to which the handles of the forceps were separated, that the head was a very large one, and that it would require considerable compression, as well as traction, to bring it through the disproportioned outlet. To accomplish this with safety to the mother, and with a prospect of saving the life of the child, I made my efforts at intervals of two or three minutes, during which I relaxed my grasp of the head, and held the handles of the forceps loosely, in order that the brain might recover from the effects of the severe pressure to which it was subjected during traction. By these means the head was delivered in fifty-five minutes from the first application of the instrument, and at fifty-five minutes past seven P.M. a living male child was born. After the introduction of the forceps, some difficulty was experienced in consequence of the forcible extension of the patient's legs, and the constant disposition to straighten the body during the strong expulsive efforts. With the assistance of Mr. Fisher and another gentleman the pelvis was held in a favourable position; the right leg was separated from the other, and flexed on the abdomen, so as to admit the handles of the instrument between the thighs. By these means, and by occupying a position in front of the patient, I could easily employ traction in the direction of the outlet with my right hand, whilst with the left I supported the perinæum. The placenta quickly followed, and at eight P.M. the uterus was felt, firmly contracted, through the abdominal walls; a bandage was immediately applied round the abdomen and pelvis, and the ether, which, during the whole period of the operation had effected complete narcotism, was discontinued. Five minutes past eight P.M.. Consciousness is resorted; she expresses a hope that she shall soon be delivered, adding that she is very comfortable. She says she feels as if just awoke from a painful dream. When informed of the termination of her labour she burst into an hysterical laugh and exclaimed, "It is a dream! it must be a dream! Oh what a good thing it is that I had the ether!" She also observed that she had not been sensible of the circumstances attending her delivery. Quarter-past eight P.M.: appears somewhat exhausted, and her face being still flushed, it is ordered to be bathed with cold water. From this period she became rapidly restored to her usual state of mind and sensibility. Farinaceous nourishment and perfect quiet are enjoined.

The child weighed eight pounds and a half; it is twenty-two inches and a half in length. The dimensions of the head are as follows:—Round the head and face, in the direction of the oblique or occipito-mental diameter, sixteen inches; around the forehead and occiput, in the longitudinal or fronto-occipital diameter, fifteen inches; from one parietal protuberance to the other, across the vertex, six inches.

It is worthy of observation, that neither the character nor the frequency of the pains was affected by the use of the ether; that all the efforts of the abdominal and other muscles which aid in expulsion, and also the characteristic cries, continued unaltered; that though consciousness remained, excepting during the last hour, in which the forceps were employed, she was wholly insensible to pain, except when the ether was suspended for a time; that with the exception of this rest, she continued under its influence for three hours and three-quarters, without experiencing the least injurious result; and that she inhaled, in all, eight ounces and a half of pure ether.

[Three weeks afterwards Dr. Smith found that she had recovered without any bad symptoms. In another case, the ether was administered for two hours, (with little interruption) before the birth of the child; and no bad consequences whatever, followed. In a third case the child was extracted by the forceps; and Dr. Smith observed that both in this and the first case, the narcotism obviously prevented that rigidity of the soft parts, which so often occasions trouble to the practitioner.

Dr. Smith comes to the following conclusions, first giving those of M. Dubois, which are,—]

1. Ether prevents pain during obstetric operations.
2. It may momentarily suspend the natural contractions, but,
3, It does not suspend them, nor the contraction of the abdominal muscles, when energetically set up.
4. It appears to lessen the natural resistance of the perinæal muscles.
5. It does not appear to exert any bad influence on the life or health of the child.
6. It does not prevent or retard the subsequent contraction of the uterus.

To these conclusions I would add,—

1. That ether produces freedom from pain during natural labours, as well as during obstetric operations.
2. That it is very probable that the momentary suspension of uterine action, which sometimes occurs when ether has been administered in the earlier stages of labour, may be caused by the novelty, not unmixed with fear, of the inhalation, just as the arrival of the accoucheur will often temporarily suspend the contractions.
3. That it will be a most powerful agent in preventing rupture of the perinæum, especially in primiparæ advanced in life; firstly, by producing relaxation of the perinæal muscles; and, secondly, by rendering the woman incapable of sudden movements, during the support of the soft parts, under the intolerable pain when the head is emerging from the os externum.
4. There is no evidence to show that the ether has any bad influence on the mother. If it has, the proof remains to be adduced.

Thus, then, I agree with Professor Simpson in anticipating great advantages from the use of ether, not only in cases requiring manipulations or operations, but also in natural cases; and the chief advantages which I think we are entitled to expect are—

1. The saving of suffering—perhaps the greatest borne by human beings, and in no way contributing to the happy termination of the case. Possibly, as a drawback from this advantage, we may admit that an inexperienced practitioner may occasionally pinch or bruise the maternal soft parts, from the inability of the patient to give any warning by her complaints.
2. The saving of a considerable portion of the shock, or that portion of it dependent upon the brain, which always occurs, and which can certainly not be looked upon in any light but that of an evil, and which is sufficient, in some cases, to destroy life.
3. The obtaining sleep, or at least quiet, during the progress of the case.
4. The more speedy relaxation of the os uteri and perinæal muscles.
5. During operations, the very great advantage of having the patient lying perfectly still.
6. The removal of the dread which many patients entertain during the whole of their pregnancy, and which, by its depressing effects, may prove injurious.

In all the cases published, the relief has been great and immediate. In none has there been any untoward event—no hæmorrhage, no convulsions, no collapse, which could be fairly chargeable upon the ether. Baron Dubois distinctly says, that he could trace no bad effect in his five cases to the ether; and my own experience confirms this account. He bases his opinion, that ether will never be habitually employed in ordinary cases, upon two main grounds; 1st, the small number of cases which he had to refer to; and 2nd, the impossibility or probable danger of keeping a woman etherized for several hours. Both these grounds have been removed; the latter especially, by the result of Dr. Simpson's cases and my own; and it is very doubtful if the Baron would not at this time greatly modify his opinion.

A point which may become of great interest and importance is, whether other agents cannot be combined with the ether; for instance, laudanum where the pains are dangerously violent; or tincture of ergot where they are insufficient. In one of Dr. Simpson's cases, the patient inhaled a volatile solution of ergot. The pains, which had previously been languid, almost immediately became strongly expulsive, and the child was born in a quarter of an hour. The woman had been in labour from forty to fifty hours.

In conclusion, I would state it as my opinion, that with perfectly pure ether, carefully administered by skilful persons, and with good apparatus, and especially by one containing an appendage with a supply of oxygen, the operation not being commenced until efficient etherization is produced, the employment of ether is not only justifiable, but promises to be instrumental in materially diminishing the dangers of operative midwifery. Probably, in natural cases it will be both sufficient and safer to carry the etherization only to the second stage, in which partial consciousness remains, but sensation is abolished; and towards the end, when the pains are ordinarily intolerable, to induce perfect narcotism. From the results which I have already obtained, it is my intention to continue the use of this valuable agent, and I do not hesitate to state my belief, that future experience will fully confirm my present opinion.

Lancet, May 1, 1847. *p.* 452.

[A delicate woman, 35 years of age, was taken in labour on the 24th of May, when the membranes ruptured spontaneously. The pains soon subsided, and did not become efficient until the evening of the 28th, when the os was dilated to the size of a half-crown piece, and the head presented.]

At seven, A.M. of the 29th, her pains became very distressing, and being greatly exhausted by several sleepless nights and long-continued suffering, she expressed her fears that she should be unable to undergo the pangs which still awaited her. At this time the dilatation of the os was nearly complete, and the perinæum became slightly distended during each pain.

I permitted her to inhale so as to deaden pain, but not to suspend consciousness, except during the last expulsive efforts, when she was completely narcotized, and ignorant of the birth of her child. This event took place at eight, A.M., an hour from the first exhibition of ether. This agent was employed only during the uterine contractions, which became increased in power under its influence, though the intermission might have been somewhat longer. But of this I cannot speak confidently, as I had no one who could take accurate notice of the progress of the labour, and I could not leave my patient to minute the duration and frequency of her pains, as I had done in previous cases.

There was the usual want of resistance on the part of the perinæum. Some coagula escaped with the child, and accompanied the expulsion of the placenta, which was thrown off, as I placed my hand on the abdomen, after the birth of the child. I now tightened the bandage I usually employ in labour, which very effectually supports, and, when needed, compresses, the abdomen and fundus uteri. She gradually recovered in about ten minutes from the etherized state, and three hours after, I found her and her infant daughter in all respects doing well. Since this time she has been going on most favourably, and has had a good "getting-up." Her milk has gradually diminished in quantity, which her anæmic condition led me to anticipate. The child is quite healthy.

This lady's description of the effect of the ether is, that it immediately removed her feeling of exhaustion, and although she was conscious of some slight pain at first, it did not distress her; and that the last stage of labour was accomplished without her knowledge. Both she, and some relatives who were present, have expressed themselves greatly pleased with the operation of the ether. She inhaled two ounces and six drachms of ether, and was kept under its influence one hour.

Although this patient was extremely exhausted, and her restlessless and dread of sinking under her severe and lengthened trial indicated the approach of a condition of anxiety to the medical attendant, if not of danger to the sufferer, she was promptly and permanently aroused by the inhalation of ether. The result of this, as well as of the cases I have published, prove beyond doubt the great value of this agent in removing the distressing, and at times alarming, state of nervous exhaustion to which women are occasionally exposed in parturition. Thus, independent of its property to destroy pain, and consequently to diminish the shock of labour, it cannot but be regarded as a most valuable therapeutic agent, when ordinary stimulants fail to sustain the sinking powers of the parturient female.

[In the next case there was inertia of the uterus, for which ergot of rye was given: the placenta was also adherent, requiring for its detachment the introduction of the hand. Ether was administered, and did not check the contractions produced by the ergot. In another case of natural labour in which ether was given, the lochia, which. after the patient's previous confinements had been so abundant as to amount almost to flooding, were very much reduced in quantity; whether, in this instance, *post hoc* is equivalent to *propter hoc*, of course we cannot determine. The next case in which Dr. Smith administered ether, was one of complete placenta prævia: the patient was in her eighth labour, and had hæmorrhage at intervals during her pregnancy.

Dr. Smith, who was summoned by Mr. C. Smith, says:—]

On the 11th of June, at mid-day, she experienced a sudden and alarming loss of blood, and some draining continued until two, A.M. (June 12th,) when slight pains came on, and the hæmorrhage became more profuse, and continued more or less all day, until four P.M. At this time Mr. Smith saw his patient, and ascertained that the os was dilated to the size of a shilling, and that the placenta presented, the pains were slight, and the strength of the patient seemed fast waning, when he immediately sent for me. As soon as I had heard these particulars, I hastened to the room, where our patient lay, with a pale, ghastly countenance, the lips being perfectly white. The extremities and face were damp and chilly, the breath cool; no radial pulse could be felt, save at times an intermittent flutter, added to which, her constant restlessness, frequent sighing, tinnitus aurium, &c., showed she was rapidly passing into a state of extreme danger, if not into the grasp of death itself. With much agitation she eagerly demanded if there was any hope for her, and was much tranquillized by my assurance that her case was by no means hopeless. I found she had lost a large quantity of blood, which had saturated the bed-clothes, and more now formed a large coagulum which blocked up the vagina, and prevented further loss. In her very critical condition, I feared to employ manual interference, whilst she continued in this asphyxial state and I consequently gave her some brandy and ammonia, which produced only a slight improvement in her symptoms, though these remddies were administered freely. It now, however, became urgent that no time should be lost in extracting the child; and having determined on administering ether by inhalation, should the symptoms of approaching asphyxia again threaten, I introduced my hand per vaginam, and found the os uteri of the size of a halfpenny-piece, completely closed by placenta. Having reason to hope that the child still lived, from the circumstance that its movements had been recently felt, I decided on turning without wholly detaching the placenta; for though I could not detect the fœtal pulsations, I attributed this to the imperfect use of stethoscope, occasioned by the patient's restlessness. Gradually and carefully I dilated the yielding os, and finding the placenta presented a thinner layer in front, I detached that portion, and passing my hand between the membranes and uterus, I pierced, with some difficulty, the membranes, which were very tough, and having seized the feet, I brought the breech through the os uteri. At this time the patient became suddenly faint, and the pulse at the wrist imperceptible. As now the usual stimulants failed to produce any effect on the circulation, I urged the instant exhibition of ether. After a few inhalations, some colour appeared in the lips, the pulse became permanently established, and the patient rallied in a most surprising manner. From the first introduction of the hand into the uterus, the dilatation of the os, and the turning, were accomplished in half an hour. In a quarter of an hour after, a male child was expelled, still born. The placenta followed immediately, and the uterus contracted firmly. During the progress of the labour, the patient retained her consciousness, with perfect freedom from suffering. She was aware of everything that passed. In the most composed manner, she described to the nurse who stood by, the circumstances attendant on the expulsion of the child, &c., observing, "Now I feel the child is passing," and "Now the head is born. How very wonderful it is I should be fully aware of everything, and yet feel no pain. Oh! what a blessing is this ether," &c. The uterus remained well contracted after the completion of the labour; but as she had lost so large a quantity of blood, I thought it expedient to give her a dose of secale cornutum, in order to preclude the chance of further hæmorrhage, feeling assured that a very little additional loss would prove fatal. Notwithstanding the pulse never failed after the use of the ether, it was necessary, for three or four hours afterwards, to supply her frequently with nourishment and stimulants, as egg and brandy, &c. She complained two or three times that she felt faint, but the sensation was relieved by vomiting. In about four hours from the termination of her delivery, she was comparatively well, and said she now was very comfortable, and free from all sensation of exhaustion. Our efforts to reanimate the child were unavailing. From this time to the evening of the 15th, she continued to gain strength rapidly, and was free from ailment, the pulse being 95, and soft, the skin cool, the tongue clean and moist, the bladder relieved naturally, and the lochia sufficient. On this day she was ordered to take some castor oil, which acted speedily, and brought away a considerable quantity of scybalæ. Soon after this, she complained of slight tenderness of the abdomen, and the lochia became scanty.

On the following day (16th) I was requested to see her, and found she had been very hysterical. The mammæ were full, though soft; the lochia scanty and fœtid; the abdomen rather tympanitic and painful; the pulse 104, but soft; the tongue clean and moist. Hot bran poultices to the abdomen were ordered, with warm-water injections per vaginam; and she took, at bedtime, a dose of calomel and opium. A very tranquil night was thus produced, and all pain and abdominal swelling were removed, and she continued steadily to improve. Mr. Smith, however, thought it right to give her some small doses of calomel and opium during the following day.

20th.—Is free from all unfavourable symptoms; was allowed to take some fish for dinner.

From this time she was put on a light animal food diet; and on the 23rd she commenced a course of citrate of quinine and iron. I visited her again on the 30th ult., when I found her on the sofa. She observed that she "felt quite well. though weak." And, with expressions of gratitude, she stated her conviction that she should not have survived, but for the inhalation of ether.

It can scarcely be doubted that the hæmorrhage in this case had proceeded to the utmost limits of exhaustion consistent with the life of the patient, and that under ordinary circumstances life itself would probably have been soon extinguished, notwithstanding the free use of powerful stimulants. I think I am therefore justified in the conclusion, that the ether was here made the instrument of arresting death, which was imminent. Surely one such instance may justly claim the attentive consideration of the profession to an agent which promises not only to mitigate the pains, but also the perils of childbirth. And I venture further to hope that it may tend to reconcile many to the employment of ether in midwifery who have not hesitated altogether to condemn its use. In the absence of this powerful agent, I should undoubtedly have considered this a case of such extreme exhaustion of the mother as forbade immediate turning, and should have adopted the practice advocated under such circumstances by Dr. Simpson, of extracting the placenta before the child. But having so recently observed the happy influence of ether in the case of "unavoidable hæmorrhage," which I reported in The Lancet of the 31st ult., and feeling satisfied of its instantaneous and permanent stimulating properties, I did not scruple, with my ether apparatus at hand, somewhat to deviate from those judicious rules which Professor Simpson enjoined, (the effects of the inhalation of ether being then unknown,) with the view to aid in the discrimination of those particular cases in which ether should be employed.

I trust I may not be thought premature or precipitate in anticipating that ether will, one day, rank amongst the most valuable therapeutic agents under circumstances of extreme exhaustion induced by hæmorrhage in the puerperal state, when other remedies have failed to support the sinking powers of life. I am strengthened in this hope by the happy results of the cases I have narrated, and I doubt not that future experience will bear out my anticipations; and I trust that extended observation will induce many to employ ether, who now altogether decline to use it in midwifery practice.

Lancet, Sept. 18, 1847, *p.* 305.

[Mr. Beck thinks that the ascertained operation of ether upon the uterus during parturition, proves that the contractions of this organ are not produced by reflex action; but through the agency of what he terms the true sympathetic system,—a system of nerves composed of the gelatinous fibres discovered by Remak. These fibres, he says, have their origin in the ganglionic corpuscles of the ganglia of the sympathetic; they remain totally distinct from the tubular fibres of the cerebro-spinal system, though often associated with them in nervous cords: and they are distributed most largely to those organs which have the smallest supply of the tubular fibres, and which are therefore least under the control of mental influence. The nerves of the uterus, for instance, contain much gelatinous fibre, and but little tubular; those of the vagina and bladder, a much larger proportion of tubular fibre; while the nerves of the muscles and skin of the perineum, consist of tubular fibre almost entirely. Mr. Beck proceeds to say:]

By means of the ether, the intimate association of these two nervous systems appears, as it were, to be decomposed, and the functions of each to be made manifest; the functions of the tubular or cerebro-spinal systems are placed in complete abeyance, whilst the functions of the gelatinous or sympathetic systems continue without alteration. But, as it would be impossible in this paper to consider this action as applied to the whole of the organs, I will chiefly confine myself to an inquiry into its effects on the uterus.

In this country, perhaps the most generally received opinion of the action of the uterus is, that the contraction of the organ is caused by the reflex function of the spinal cord. It is supposed that the incident or afferent nerves distributed on the uterus receive an impression which is conveyed to the spinal cord, and that a motor influence is sent from thence along the reflex or afferent nerves to the organ, and causes the contractions; this motor influence being propagated without the consent or knowledge of the individual. In support of this opinion, cases are quoted in which the fœtus was expelled after the respiration of the mother had ceased; and other cases are also brought forward in which the action of the uterus continued unimpaired, although the female was afflicted with paraplegia. M. Ollivier mentions an instance of this disease in which the parturition took place "tout à coup," and with so little pain, that the female was only aware of the fact by the subsidence of the tumor in the abdomen, and the cries of the child, which were strong, and the child full grown. M. Brachet mentions another case, in which he says—"I knew a lady who was the mother of three children, and who became paraplegic; the loss of sensation was complete as high as above the pubis; the sensation during coition was lost, yet she became with child for the fourth time. At the end of nine months, parturition appeared to commence, but in so vague a manner that she only suspected it by the date of her pregnancy. The uterus could scarcely be felt to contract when the hand was applied to the abdomen, and there was no pain whatever. By the touch I recognised the same tension of the uterus, the orifice of which was open, and of a remarkable softness: the secretion of mucus was abundant. I left the parturition to nature for twenty-four hours, yet it did not progress. This lady, who had been very quick in her two last confinements, wished to have this finished, from the feeling that she would not be able to complete it without assistance. By some titillations of the neck of the uterus, I endeavoured to provoke the contractions, but without effect; the soft organ admitted of being so much distended in every direction, that the orifice was completely dilated. The head of the child presented naturally. I pierced the membrane, and the water escaped by the contraction of the uterus; the head descended, and engaged in the superior aperture of the pelvis, from which it did not move. I endeavoured during two hours to produce a natural parturity by titillations and pincing the uterus, but in vain: the contractions did not come on. With the forceps I succeeded in extracting a full-grown living child: the uterus contracted slowly upon itself. During more than an hour I made frequent frictions (on the abdomen?), but in vain, to produce the expulsion of the placenta, and was obliged to introduce the hand to remove it. It was only with an extreme degree of sluggishness that the uterus gained its ordinary volume."

In remarking upon these two cases, in one of which the action of the uterus was brisk and strong, whilst in the other it is considered slow and feeble, Dr. Marshall Hall says—"I may now ask, how are we to explain the discrepancy between the facts (apparently similar) observed? I think it probable that, as in the case detailed by M. Ollivier, the disease was *above* the origin of the cauda equina; in that of M. Brachet it was seated *below* that origin. In the latter case the cerebral or connecting link between the incident and reflex nerves would be wanting, and the reflex functions would consequently cease!" Now, granting this supposition to be correct, and that in M. Brachet's case the reflex functions had ceased, how, then, are we to explain the action of the uterus? For it continued: —the child was born, the uterus contracted, and the woman did well. Even with this view of the seat of the disease, there must have been some other influence in operation to produce the contractions of the uterus, for the reflex function is supposed to have ceased. To this it may be replied, the influence was small:

the action of the uterus was slow, feeble, and imperfect, and incapable of expelling the child; but, although this is assumed, there does not appear to be sufficient evidence that it was so. The lady only suspected she was in labour, from the date of the pregnancy—a most uncertain mode of judging. This, however, was confirmed by the tension of the uterus felt when the hand was applied to the abdomen; also, when examination was made per vaginam, by the orifice of the uterus being open, and by an abundant mucous secretion. Yet every practical accoucheur knows that this condition frequently precedes natural labour in a healthy woman for some days, and that these symptoms are only evidence of the premonitory stage of labour. And, when we add to this, that, from the wish of the patient, they only waited twenty-six hours for the occurrence of forcing pains, we may fairly question whether they waited long enough, and whether it was not a case which was hurried, in consequence of mistaken data, but which, if left to itself, would have terminated without assistance. There does not appear to be any sufficient evidence to prove that the uterus was unequal to complete the expulsion of the fœtus, had they waited the time of many ordinary labours; whilst the absence of hæmorrhage and other untoward symptoms sufficiently shows that contractions did take place.

We may thus reasonably doubt that this case affords any additional facts to the former; viz., that the action of the uterus can take place, and the expulsion of the fœtus be effected, without any pain to, or any cognizance of, the mother. Still, it may be argued, that this supposition as to the seat of the disease was incorrect, and that the disease being seated higher in the spinal cord, a small portion of it was healthy, and that the reflex action took place through this healthy portion. However problematical this might appear, there was no satisfactory evidence, until lately, to shew that such reasoning would not apply. In many of the recent cases in which the inhaling of ether has been applied to relieve the pain of operation in midwifery, the whole of the functions of the brain and spinal cord, including also the reflex functions, have been annihilated for a time, and yet the action of the uterus went on as regularly and as vigorously as if all the functions of the nervous system were in full force: the eye becomes fixed; there is complete insensibility to pain; no reflex actions of the limbs occur; the muscles of the perinæum are in a very flaccid state, and offer no resistance to the birth of the child: in a word, all the most obvious reflex actions are in abeyance, and yet the contractions of the uterus go on unimpaired. Such being the case, we cannot suppose that the reflex actions of the uterus alone continue when all the most obvious reflex actions are annihilated. We must conclude that the action of the uterus depends on some other influence than that of the spinal cord.

Medical Gazette, June 11, 1847, *p.* 1032.

[Mr. Lansdown relates the case of a female in her sixth confinement; the first had been a very painful one, and in the other four pregnancies she had only gone to the 7th month. At half-past seven o'clock, when she had been a few hours in labour, and the pains were very smart, the ether was administered at the commencement of every pain. Mr. Lansdown says:]

At the approach of every pain she asked for her pipe, as she called it, and slept during the time of each contraction of the uterus, her consciousness returning about half a minute after each had ceased, and continuing for three minutes; the contractions of the uterus were sometimes very considerable, so that she caught tight hold of her nurse or friend during their continuance, at the same time pressing her feet firmly against the bed-post, and pushing her body up higher on the bed, yet upon her awaking she said she had felt no pain, nor was she conscious of any effort being made on her part; the head was much longer in its descent than I had anticipated it would have been, the child not being born until twenty-five minutes past ten, nearly three hours from the commencement of the inhalation, during which time she felt no pain nor any inconvenience after the cough had ceased; at the last the head came down with a rush, but the perinæum was fully prepared for it, being in a perfectly relaxed state; ten minutes after the birth of the child the placenta came away; there was no fluid discharge either accompanying or following the expulsion of the placenta; the uterus contracted immediately. I did not feel her pulse during the time she was under the influence of the ether, but subsequently to the birth I found it 84. According to her own expression, the ether refreshed her and kept up her strength, so that she was quite cheerful, instead of dreading the approach of each pain, as she had been previously doing. During the progress of the labour she was perfectly cool, not requiring her face to be wiped, neither was there more than her usual colour upon her cheeks.

May 9th. Going on well; has had no after-pains, from which, upon former occasions, she had suffered very much.

12th. Found my patient up: she said she was so well it was useless her lying in bed any longer.

[The next patient, pregnant with her eighth child, had had profuse hæmorrhage following the extraction of the placenta, in her last three labours. At the second month of the present pregnancy, she had hæmorrhage, which continued at intervals for a month, and the pregnancy then went on to the full term. May 16th, at 10 A.M. Mr. Lansdown was sent for. He says:]

During the first twenty minutes I was there she had four pains; the os uteri was dilated to the size of a shilling; the pains then abated in frequency, returning very slightly every half hour. I left her at one, and returned at twenty minutes to six P.M. The head was then freed from the uterus, and had descended nearly to the perinæum; the pains were now five minutes apart, and severe; at five minutes past six, I commenced with the ether; three strong contractions followed very quickly, the first expelling a large quantity of liquor amnii; the second, the head of the fœtus; and the last, its shoulders, with the remainder of the body, which was fully born at ten minutes past six; the placenta immediately followed, being removed in two minutes after the expulsion of the child, unaccompanied by any discharge, so that she had not to endure the trial she had suffered from on the three previous occasions; after the delivery she fell into a doze, which lasted about five minutes; when she awoke she was regretting very much the absence of her pains. Fifteen minutes after the birth of the child, she remarked to us, her sister and the nurse being present, that the pains having again left her, she feared she should have to pass through another night without her child being born: it was with difficulty we could persuade her to believe what had happened: at length she felt the abdomen, and then remarked, " Surely her child was gone, but she had felt nothing of it; she had merely had a pleasant dream instead of suffering pain "--Quarter to seven: She had perfectly recovered from the effect of the ether, and said she was very comfortable, but she could not understand the child being born without her feeling any pain; her pulse was now 72, the uterus being well contracted, and there being no discharge. I took my leave in much better spirits than I had entered the house, for I fully expected, upon this occasion, that I should have had a serious affair, taking into consideration her illness in October, and her former hæmorrhages.

May 18th. Has passed a good night; has had no after-pains; the uterus well contracted; has had no bad symptom.

20th. Very well; says she does not know why she remains in bed, as there is nothing the matter with her.

Lancet, June 5, 1847, *p*. 584.

[Mr. GARDNER, with Mr. Tucker, attended a case in which the patient had been sixteen hours in labour, the pains were strong, the liquor amnii had escaped, and the child's arm was in the pelvis. Mr. Gardner says,]

My own opinion is, that in all cases of operations, the vapour should be given in full strength, and its effects induced as rapidly as possible. The air passages of the instrument should be very large, and on no account should air be allowed to mix with the ether vapour after passing the reservoir. To the double-way stopcock admitting air into the tube near the mouth I attribute the excitement so inconvenient in operations.

With these precautions the ether was administered, and in five minutes the patient was asleep. The face and lips retained their natural hue, and the pulse, which before was flurried and frequent, fell to 70. The operation of turning was effected very adroitly by Mr. Tucker,—the expulsive efforts of the uterus continuing, whilst the patient was wholly unconscious. Very slight moans, clenching of the hands, and rigid outstretching of the arms, accompanied the uterine contractions.

After ten minutes had elapsed from the time insensibility was complete, our patient awoke, and finding herself not delivered, she said, " Oh, send me off again until all is over." The ether was again inhaled, and in fifteen minutes more the child was born. It was of a full average size, and alive.

The action of the uterus was neither checked nor in any way modified by the influence of the ether. The patient is perfectly well, and expresses great gratitude for, and admiration of, the means which obviated all the pain usually incident to such circumstances. She awoke to perfect consciousness only after all was over, and the child was being dressed. The after symptoms are perfectly normal. The child well.

To myself, to Mr. Tucker, and two intelligent females, both mothers, who were present, the spectacle was one of the deepest interest, and called forth from the latter the liveliest expressions of satisfaction.

Lancet, July 10, 1847, *p* 55.

Dr. Roux, of Toulon, who has closely investigated the subject has come to the following, among other conclusions, respecting the use of ether in midwifery.

1. No injury is done to females in the puerperal state by the respiration of ether vapour.
2. That in ordinary deliveries, ether vapour, by suppressing pain, does not interfere with labour.
3. That in difficult labours it is desirable, both for the mother and child, to prevent suffering.
4. The uterus and abdominal muscles continue to contract when the female is under the influence of ether.
5. The child does not appear to participate in the stupefaction produced by ether.
6. The various changes following delivery are not impeded or aggravated—thus the hæmorrhage is not increased, and the milk is equally secreted.—Gaz. Med. Oct. 9.

Medical Gazette, Oct. 15, 1847, *p.* 676.

158.—ON THE CONSTRUCTION OF THE PLACENTA.

By W. Adams, Esq , L.L.D., Banchory.

[After an elaborate investigation of the various hypotheses that have been held respecting the construction of the placenta, and the mode of communication between the mother and fœtus, Dr. Adams comes to the following conclusions:—]

I. It would appear that all the opinions which have ever been held regarding the construction and functional office of the placenta, may be referred to the following heads:—1st. Physiologists in ancient times, and down to the days of Harvey, holding that the male semen is the original of the embryo, believed that the uterine vessels penetrate into it, and thus directly furnish blood to the fœtus. 2nd. Harvey, and all the physiologists of the 17th century after him, held that there is no vascular connection between the mother and fœtus, and that in the human subject, as in all the other orders of mammals, the fœtus and its appendages are inclosed in a proper membrane of their own, through which they imbibe an alimentary juice, which constitutes the pabulum out of which the blood of the fœtus is formed. This theory accords in the main with the views entertained by Monro *primus*, in the middle of the 18th century, by Dutrochet and Velpeau, by Seiler, Dalrymple, and other authorities of the present day. 3rd. Certain physiologists in the 18th century, including the illustrious Haller, held that a mutual inosculation of the fœtal and maternal vessels takes place upon the uterine surface of the placenta, and that in this way the uterine arteries supply pure blood to the placenta, while the uterine veins remove impure blood from it.

4th. The Hunters and their followers held that the placenta is formed partly from the ramifications of the uterine vessels, and partly from those of the umbilical, and that these two distinct portions are united together near its uterine side, and interchange blood by means of certain cavities named the placental cells.

5th. Weber, Baer, Wagner, and other advocates of the cell-theory in Germany, have lately propounded the doctrine that the whole mass of the placenta is composed of a double set of vessels, the maternal and umbilical; that these run along, side by side, through the whole structure of the placenta, the latter corresponding to the fibrous tissue of a sponge, and the former to the cavities or interstices of the same; that the maternal vessels are far larger than the fœtal, the latter being mere capillaries, whereas the former are represented to be "far too large to be spoken of as capillaries."

6th. We have shown above that all the views lately propounded by British physiologists, are modifications of the theories of Harvey, Hunter, and Weber.

II. It will be readily admitted that the first of these theories, being based on an erroneous assumption as to the original of the embryo, and also being formed in ignorance of the true functional office of the blood-vessels, must be entirely rejected; and that the third is, if possible, still less deserving of any serious consideration, being founded on an erroneous hypothesis as to the termination of the absorbent vessels, and in ignorance of the difference which it is now well known there is between the globules of the maternal and fœtal blood.

III. With regard to the second, I hold that the following conclusions may be legitimately drawn from the facts and arguments stated in the preceding sketch. 1st. It is *a priori* highly probable, as assumed by the physiologists of the 17th century, that the human placenta should be formed upon the same type of structure that prevails through the other orders of the class *Mammalia;* and these physiologists have shown, most satisfactorily, that in all the inferior orders, the maternal and fœtal parts connected with gestation are perfectly distinct, and that the fœtus is nourished by means of an alimentary liquor, secreted from the maternal blood, and imbibed by the fœtal secundines through their outer membrane, the chorion, which envelopes the whole secundines, including the placenta, when this organ exists. 2. The analogy between the apparatus for the support of the fœtus in the ruminants and the human subject is so striking, as to have been pointed out by physiologists in all ages. Now it is clearly shown by the physiologists of the 17th century—and as to the fact I cannot entertain the slightest doubt—that in the cow the maternal and fœtal cotyledons, otherwise called the *glandulæ* and *placentulæ*, are perfectly distinct, and consequently there can be no vascular connection between the mother and the fœtus. The analogy of the ruminants, therefore, leads strongly to the probable conclusion that in the human subject the maternal and fœtal parts must be entirely separate. 3. The analogy of oviparous animals in like manner leads to the conclusion that it is an universal law in nature that animals in the embryonic state are completely separated from their parent. 4. The analogy of the placental tufts to the intestinal villi and the spongioles of trees is so striking as to have been particularly adverted to by physiologists in all ages, and it also leads to the same inference. 5. The appearances presented when separating the placenta from the womb after death, as given by Malpighi, Monro, Dr. Lee in 1832, and others, are so striking, as to preclude the supposition of there being any vascular connection between the uterus and placenta. John Hunter's assertion that he detected "arteries of the size of crow-quills, and veins of a large size," passing between the mother and the placenta, has not been confirmed by the observations of any trustworthy inquirer since his time. 6. As is remarked by De Graaf, Dr. Lee, and others, if the placenta were connected to the uterus by blood-vessels of considerable size, it is impossible that the separation of the placenta could ever take place without hæmorrhage. 7. The last remark is still more striking in the case of inversion of the womb. 8. The appearances on the uterine surface of the placenta as described by Malpighi, Monro, Boerhaave, Dr. Lee in 1832, J. Dalrymple, and others, have been confirmed by repeated observations made by myself, and, as far as I can see, they entirely preclude the supposition of any vessels from the mother entering the placenta. The uterine surface is covered with a fold of the chorion, and no vestige of any blood-vessel can be detected on it even with the aid of a microscope. 9. As remarked by De Graaf, Velpeau, and others, if the placenta did not belong exclusively to the fœtal apparatus, this organ could not possibly be formed in extra-uterine pregnancies. 10. The figures of the ovum given by Velpeau in his *Embryologie*, put it beyond a doubt that the placenta is an appendage of the chorion, and that no maternal vessels enter into its structure.

IV. With regard to the Hunterian hypothesis, the following are the results of our preceding investigation, and the conclusions which I think must necessarily follow from them:—1. That the Hunters took up the consideration of this subject under very erroneous impressions in regard to the absorbent system, and looked upon the phenomena connected with the placenta under a strong bias in favour of their preconceived views. 2. That they allowed themselves to be imposed upon by fallacious appearances in certain injected preparations contained in their museums, as Professor Goodsir shows that in like manner they were deceived by similar preparations illustrative of the mode by which the absorbents terminate in the intestinal canal. 3. That, according to Velpeau, many of the figures in W. Hunter's work on the gravid uterus are either drawn from the imagination, or exhibit appearances very different from the natural. 4. That, when J. Hunter described "vessels of the size of crow-quills" running between the uterus and the placenta, he most probably committed the mistake which Monro shows Noortwyk to have fallen into—namely, that of confounding the portion of the maternal apparatus which is analogous to the *glandulæ* of the ruminants with the placenta itself; the fact of the matter being, that this fungous substance in the human subject is entirely separate from the placenta as it is in the ruminants. 5. That, as we have shown to have often happened to other inquirers of equal eminence, the Hunters most probably allowed themselves to be imposed upon by preconceived notions when they described the openings of arterial vessels said to be seen by them on the uterine surface of the placenta. 6. That it seems to be now pretty generally conceded that there is no such structure in the placenta as the cavities described by the Hunters under the name of placental cells. 7. That, according to the Hunterian hypothesis, the formation of the placenta in extra-uterine conceptions is utterly inconceivable. 8. That the human placenta, if constructed on the plan represented by the Hunters, would be a perfect anomaly in nature, as it cannot be shown that the same organ is formed upon the same type in any other animal whatever. 9. That, in particular, the human placenta, as described by the Hunters, is analogous to the lungs in the adult, whereas in all other animals its corresponding part is analogous to the intestinal tube: in other words, the placenta is evidently an organ of nutrition, and not of respiration as held by the Hunters.

V. Respecting Weber's hypothesis, I hold,—1st, That most of the objections stated above to the Hunterian theory of the placenta apply also to that of Weber, as far, at least, as concerns a vascular connexion between the uterus and placenta. 2. That no competent proof is offered of the placenta being formed on the plan he describes. 3. That the German physiologists are utterly at variance as to the facts upon which this hypothesis is founded; thus, for example, Eschricht, of Copenhagen, agrees with Weber on many points, while on others he proclaims his dissent, whereas Seiler entirely denies all vascular connexion between the placenta and the uterus,—all this implying that the hypothesis has been hastily concocted from assumed facts of a very questionable stamp. 4. That this hypothesis is irreconcileable with a prominent fact than which there is no fact connected with the subject established upon a greater concurrence of high authority,—namely, that the uterine surface of the placenta is covered by a smooth and firm reflection of the chorion. 5. That if tried by the acknowledged tests of evidence, the conflicting statements of alleged facts in support of the hypotheses of Hunter and of Weber nullify one another. According to the one the utero-placental vessels are few in number, and of considerable size,—according to the other, they are numerous, and of small size; according to the one these vessels immediately after entering the placenta are lost in the cavities called the placental cells,—according to the other, the placental cells have no existence, and these vessels retain their vascular form throughout the whole structure of the placenta.

Finally.—Seeing, then, that there are so formidable objections to the last two hypotheses, it seems impossible not to recognise the first as being the only true theory of the structure and functional office of the placenta, inasmuch as we have seen that observation, analogy, and reasoning from the undoubted facts of the case, all lead us to the same conclusion,—namely, that the human placenta is formed upon the same type as its analogues in all the genera and orders of the class of mammals;—that it is a portion of the fœtal appendages, having no connection with the maternal parts but by imbibition through its investing membrane, and that its functional office is analogous to absorption by the intestinal tube, and bears no analogy whatever to the process of respiration in adult animals.

Medical Gazette, *Sept.* 3, 1847, *p.* 424.

159.—ON THE SOURCE OF HÆMORRHAGE IN PARTIAL SEPARATION OF THE PLACENTA.

By Dr. Chowne, Physician to Charing Cross Hospital, &c.

Dr. Hamilton and some other British authorities, as well as some French writers, (amongst whom M. Velpeau particularizes Madame Boivin,) have stated, that when uterine hæmorrhage occurs in consequence of partial separation of the placenta from the place of its insertion in the uterus, the blood does not flow from the uterine vessels, the orifices of which have become exposed, but from the uterine surface of that part of the placenta which has become detached; that it passes from the maternal vessels into the placenta, by that portion of its surface which remains attached, and escapes out of the placenta by that portion of its surface which has become detached; permeating the cellular structure, and making the circuit of the placenta in its course out of the maternal vascular system into the cavity of the uterus.

[It is well known that when hæmorrhage occurs with a partially detached placenta, the bleeding ceases when entire detachment takes place. But uterine contraction will arrest hæmorrhage without detaching the placenta, hence the rule to rupture the membranes. Dr. Chowne says,—]

In this well-known fact we have bleeding prior to the contraction of the uterus, and cessation of bleeding when contraction has taken place; yet blood continues to be poured into the placenta, and to diffuse itself abundantly through it, for the nurture of the fœtus. Had the blood, prior to contraction of the uterus, flowed from the placenta, it would flow from it still, and the cessation appears not to admit of any other explanation than that the blood issued from the veins while their orifices were dilated, and ceased when they were contracted.

In cases of uterine hæmorrhage from partial separation of the placenta, where there is but little contractile power, and the separation is accomplished by manual operation, the act itself of separating it excites the uterus, and brings on contraction. The effect of stimulus on uterine action is known to be great; but I believe we are scarcely aware how great. Neither, in such case, is irritation of the uterus the only source of excitement to contraction; but the stimulus applied by the presence of the hand in the vagina has also a tendency to produce contractile efforts of its parietes, in which the uterus is by sympathy prone to join. Thus, *spontaneous* separation and *manual* separation, when contractile power is exercised by the uterus, are followed by similar results, the only difference being, that in one instance the phenomena are more energetic than in the other; and that in one they are voluntary, in the other excited.

Separation of the placenta, whether spontaneous or artificial, while the uterus remains in a passive state, forms a melancholy contrast to separation of the infinitely less dangerous active kind. Happily, separation purely passive is rare, although we have not unfrequently close approximations to it, in the extreme inertia witnessed sometimes, as well where the placenta presents as in cases of accidental hæmorrhage, in which, even after the liquor amnii has come away, and after all usual means for inducing parturient action have been employed, the uterus remains virtually impotent, while hæmorrhage proceeds, and the worst dangers threaten.

In most cases, timely recourse is had to artificial delivery, and the child being withdrawn, and the placenta brought away, the uterus, under the exciting stimulus of the hand, finally contracts, if not vigorously and firmly, at least sufficiently for the patient's preservation.

It appears, however, in cases belonging to the class of passive separations, where no artificial means are used, in which the sepation is mere separation only, and where the two other phenomena (discharge of the liquor amnii and uterine contraction) do not take place, but the uterus remains in its full dimensions, surrounding the whole undiminished ovum, that in such case, although the placenta is totally separated from all vascular connexion with the uterus, the hæmorrhage proceeds, and the patient bleeds to death.

[Such a case Dr. Chowne refers to, as related by Mr. Robertson; there was enormous hæmorrhage, no pains, os uteri dilated only to the size of a shilling; the membranes were ruptured and ergot and brandy given, but without effect; the patient sank. Dr. Chowne proceeds:]

The results of the post-mortem examination are extremely instructive with regard to inertia of the uterus, and its terrible consequences. The detail says, "On making a post-mortem, six hours after death, we found the organs in the abdominal cavity healthy; and on opening the uterus, we found the fœtus lying in the natural position, the placenta, which had adhered to the fundus, completely detached and lying loose, together with a large quantity of coagulated blood in the uterine cavity."

In this melancholy case we have the plain, indubitable fact of passive and spontaneous separation of the placenta, and, moreover, not partial, but total separation, giving rise to hæmorrhage which destroyed the patient. That the separation was complete is manifest in the clear, explicit detail of the examination; "the placenta," it states, "had adhered to the fundus, and it was completely detached, and lying loose, together with a large quantity of coagulated blood in the uterine cavity."

[Another case is mentioned, recorded by Mr. Thompson. The patient had borne twelve children, and was at her full time; she was seized while in bed, with pain, very slight, however, and on getting up, fainted. After this she had trifling pains, no hæmorrhage externally, but a tendency to prostration which increased until she died in about twelve hours. Dr. Chowne continues:]

On examining per vaginam, he found no discharge of any any the membranes entire, os uteri fully dilated, and the head in the brim of the pelvis.

In this, as in the former case of passive separation, the prominent peculiarities during life were, the inert state of the uterus, the protracted tendency to syncope, and the terrible and constantly increasing prostration. The facts brought to light by the post-mortem examination are also such as exemplify the effect of passive, in contradiction to active, separation of the placenta.

I assisted (says Mr. Thompson) at a post-mortem examination of the body, about fifty hours after death, up to which time there had been no discharge from the vagina. On opening the abdomen, we found the fundus very large, and apparently filling the whole cavity, pressing the whole of the floating viscera strongly upwards and backwards; these latter had a very bleached appearance, and all their vessels were empty.

On raising the fundus of the uterus an immense quantity of bloody fluid rushed from the vagina, and on cutting into the womb, the walls of which were very thin, we found that it still contained more than two quarts of fluid and grumous blood, mixed with large coagula, which completely surrounded the child, enveloped in its membranes entire, with the head in the brim of the pelvis.

The placenta was wholly detached from the uterus; but the place where it had been attached was evident enough—on the right side of the womb, below the fundus. We examined this part very narrowly, but could discover nothing unusual in its appearace, or in that of the placenta.

We can scarcely venture, I presume, to feel any certainty or even strong opinion as to whether the process of separation proceeded gradually from one part to another, or whether it was completed (to use a popular phrase) comparatively "all at once." There appears to be great probability, however, that the cause, be what it may, was uniform, and that the agency which began the detachment was the same as effected its completion.

Upon reviewing the facts, and the state of the parts, as seen in the examination after death, we discover proofs of a passive condition of the uterus during life.

On raising the fundus of the uterus, prior to its being cut into, an immense quantity of blood rushed from the vagina, yet there was no external hæmorrhage during life; and Mr. Peskitt found, upon examination per vaginam, no discharge of any kind, even after she had "breathed her last." The clear and plain conclusion is, that there was not sufficient uterine impulse throughout the whole of the period, during which the poor woman was bleeding to death, to force even the blood through the os uteri, although, according to the history of the case, "more than two quarts of blood, mixed with coagula, remained in the uterus after the immense quantity of bloody fluid rushed from the vagina."

The account further states that the uterus was "very large," and its walls "very thin"—circumstances with which want of contractile power and a passive condition are perfectly compatible.

The careful investigation made, and the discovery, "after examining narrowly," that nothing unusual could be found either in that part of the uterus where the placenta had been attached, or in the placenta itself, are circumstances that free the subject from some difficulties in explaining the phenomena, which might possibly have arisen had the uterus or the placenta been organically changed.

Had the doctrine been true, that entire detachment of the placenta checks hæmorrhage, the hæmorrhage should have ceased when the total detachment took place.

That the blood is not poured out of the placenta is obviously suggested by considering what the effect upon the child would be, of profuse hæmorrhage derived from those vessels upon which the sustenance of the ovum depends. Hæmorrhage occurring under such circumstances, the child would be subjected to a two-fold privation; first, in being abridged of its natural supply by a quantity equal to all that should be furnished to it through the detached portion; and secondly, in the exit and waste of even that curtailed quantity which enters the placenta by the attached portion, and is by some supposed to make its escape by the detached portion.

Reverting to the terrible hæmorrhages that sometimes take place, while the child remains secure, and is born even vigorous and strong, I am led to regard the sufficient way in which it is nourished as evidence that the blood effused is not poured out of the placenta. We must, indeed, entertain a conviction, almost amounting to certainty, that if the enormous quantities of blood—which might be said, in some cases, to stream from the womb, and which continue to flow and to drain away until the patient is reduced to actual syncope—were poured out of the placenta, the viscus must be so exhausted and comparatively emptied, as to be incapable of supplying to the child the means of life.

Lancet, August 28, 1847, *p.* 226.

Many have considered that the blood cannot escape from the uterine veins into the uterus,—that such escape would be incompatible with the anatomical arrangement of the veins of the uterus, —that it would be a backward course, and therefore does not occur.

Every individual vessel of the venous plexus of the uterus giving lateral support to the fluid passing through it, we know that whereever a breach of continuity takes place, or in other words, an opening is made, the support at that point being lost, the blood escapes.

A vein divided by a scalpel, whether on the external or the internal surface of the uterus, bleeds, and the open and exposed orifices of distended veins. on the inner surface of the uterus, would be in no essential point different from wounded veins, and would, so long as they remained distended, bleed also. Neither is there any impediment to the blood flowing from any collateral branches of the venous plexus in any direction, seeing that "the veins of the uterus form a plexus of the largest and most frequent communications we know of among the vessels of the human body;" that these veins are without valves, and, moreover, that however much any particular arrangement in the course and position and distribution of the veins in the substance of the uterus, and the valve-like structure at their orifices, may be relied upon as giving security against escape of blood, such reliance is unfounded, and the arrangement insufficient, and manifestly insecure; and finally, that hæmorrhage as certainly takes place from the said veins as it does from varicose veins, in whatever part of the body they may be, even from those of the inferior extremity, notwithstanding the obvious valvular structure by which they also are provided with seeming security: instead, therefore, of questioning the efficacy of the uterine arrangement, however similar or equivalent it might seem to a valvular arrangement, we are obliged to admit the fact, that it does not answer the purpose of valves, and that it does allow free, and even fatal hæmorrhage to take place.

It is known, moreover, that fluid passes even freely from the vena cava to the cavity of the uterus, where delivery has been recent. I lately passed a tube into the vena cava of a woman who died on the fourth day after her delivery, and injected plain water by means of an ordinary injecting syringe. The only incisions made were such as enabled me to proceed with the experiment.

The uterus was contracted to about the size of the human heart; the fluid passed freely, and escaped by the vagina. A ligature was then put round the vagina, and tied; the injection was repeated, and the uterus became distended with water; the uterus was then laid open, and the injection again proceeded with; the water flowed freely both from the venous orifices in the wound of the uterus, and from those opening in the place where the placenta had been inserted.

[Profuse and dangerous hæmorrhage may occur where no placenta exists: as from the unimpregnated uterus, in the early stages of pregnancy, in hydatids, and also post partum; also in cases of inverted uterus, respecting which, Dr. Chowne says,—]

In cases of inverted uterus, it is so certain that bleeding takes place from what, in the natural state, is the internal surface, as to have led authors even to found the distinction between "partial" and "total" inversion upon the degree of hæmorrhage present.

As an example, might be cited a case recorded by Smellie, which was communicated to him by Mr. Lucas. In describing the state of the patient, with regard to flooding, he says, "There was a continued pouring forth of blood from the vessels of the *uterus;*" and, it is worthy of remark, that the word uterus is printed in italics.

A case not less in point is recorded by Dr. Lever. It was a case of spontaneous inversion. The Dr. says, "Without the loss of a moment I tried to return it" (the uterus) "without previous separation of the placenta, but failed. I now peeled off the after-birth, but as there had been some blood lost already, owing to its partial detachment, the entire separation was attended with such fearful flooding, that she sunk almost immediately."

[Another proof, Dr. Chowne thinks, that the placental surface is not the source of hæmorrhage, is the fact that in Cæsarian operations, where the uterus immediately contracts, there is rarely hæmorrhage. He also mentions a case in which hæmorrhage *did* occur, as confirmatory of his opinion.]

The operation was performed by Dr. J. H. Schenk. The author, after describing the mode in which he opened the womb, says, "only a few ounces of blood flowed. ...... In the upper angle of the wound there protruded a margin of the placenta, which was cut through with the knife for about half an inch, without any particular increase of bleeding at that part. I took hold of the child's nates, and brought it out. The uterus contracted quickly after the child. At the same moment the placenta partly detached itself; a considerable quantity of blood gushed at once out of the wound, as well as from the place of adhesion of the placenta. It was but a momentary gush, which ceased as soon as the uterus contracted upon the placenta. ...... I found two-thirds of it (the placenta) projecting at the wound in the uterus. ...... Introducing through this my two fingers, I easily detached the remaining portion of the placenta. ...... Here the second gush of blood took place, which was but momentary. Before I took out my hand, I seized the uterus, and convinced myself of its perfect contraction."—*Siebold's Journal for Geburtschülfe*, 1826, band. v. p. 461.

In this instance there were two distinct gushes of blood; the first occurring when the placenta, simultaneously with the contraction of the uterus, partly detached itself; the second, when the complete detachment again exposed more uterine veins.

In the first instance the hæmorrhage ceased with the uterine contraction, and there followed an interval, during which the placenta was retained, and partly attached, yet there was no hæmorrhage.

The second gush, occasioned by the final separation, was also arrested by uterine contraction.

There is no statement as to the identity of the vessels which supplied the second gush; but with regard to the first, the "blood gushed out of the wound, as well as from the place of adhesion of the placenta."

[In conclusion, we have Sir C. Bell's opinion respecting the source of uterine hæmorrhage, and the agency of muscular contraction in restraining it. He says :—]

The fact of the natural contraction of the substance of the uterus closing the smallest pore of the vessels, so that no vessels are to be seen where we nevertheless know that they are large and numerous, demonstrates that a very principal effect of the muscular action of the womb is the constringing of the numerous vessels which must be ruptured when the placenta is separated from the womb.

Lancet, Sept. 4, 1847, *p.* 250.

[Dr. Radford made the following observations upon Dr. Chowne's paper:—]

The facts which are already known to the profession Dr. Chowne admits, but disagrees in the inferences—that is, he does not think "that hæmorrhage having persisted while the placenta was only partly detached, and having ceased when it was wholly detached, the partial detachment caused the continuance of hæmorrhage, and complete detachment the cessation." This opinion appears true to some extent, if we only take an abstracted view of the matter, and suppose that all other natural anti-hæmorrhagic agents are ineffective, and all means neglected by the practitioner to bring about their co-operation.

There can be no doubt that the mode of separation of the placenta has very considerable influence on the result when the operation is completed, either by nature or by art. The relative position of the placenta over the os uteri also tends to modify the process of natural separation, and greatly increases the difficulty of its complete separation by art.

Although it is erroneously laid down by some practitioners, that the woman should be invariably delivered in all cases of unavoidable hæmorrhage, yet we shall find, that when the placenta is placed in a certain relative position over the os, and other circumstances are favourable, nature will complete the delivery. In partial presentations of the placenta, as when a slip of it crosses over the os uteri, great hæmorrhage happens, but an early rupture of the membranes, either naturally or artificially, generally induces strong uterine action, which forces the head of the child downwards, so as to separate the placenta on one side, and thereby place it in such a manner as to be compressed as the child passes along. In other partial cases, in which a greater extent of the placenta presents, the hæmorrhage abates as the head descends, thereby successively separating the placenta and pressing it against the sides of the pelvis.

The chief requisites for the safe delivery of the woman in these cases are, strong and effective uterine action, and an early rupture of the membranes. If the membranes remain entire, the hæmorrhage continues, in consequence of fresh portions of the placenta being separated as they are distended and forced down, wedge-like, into the os uteri.

The placenta is sometimes more or less centrally placed over the os uteri, varying considerably in degree in its thickness and in its circumference, so as to occupy a greater or less extent of uterine surface for its insertion. These circumstances affect the progress, and, in some instances, the termination of the case; when thin, it is usually expanded and attached over a large surface, but when thick it occupies less.

Whenever the diameter of the placenta is very great, and spreads widely over the uterine tissue, there is no safety but in an early artificial delivery. In such cases, labour only tends to separate further portions of placenta, whose texture is broken up by the constant and increasing pressure which it sustains between the head of the child and the os uteri. Under these circumstances, then, it would be extremely hazardous to trust to the natural or spontaneous separation of the placenta, as no doubt the woman would be destroyed in the great majority of cases, long before the process was completed. So also the difficulties of artificial separation of the placenta would be increased by such a state of placental attachment. I have elsewhere commented on the hazard which must inevitably follow in such cases, if the placenta was detached in the manner recommended by Dr. Simpson, *(London Medical Gazette,* vol. xxxvi. p. 1272.) But when the placenta is more confined in its insertion, and placed almost, if not altogether, centrally, over the os uteri, if strong pains take place, if the os uteri is soft and easily dilates, the placenta is sometimes completely detached and pushed into the vagina or through the os externum, whereby the hæmorrhage immediately ceases, the labour being accomplished by the unaided natural powers.

A most graphical representation of the placenta thus fixed over the os uteri, is given in Dr. W. Hunter's splendid collection of engravings.

Dr. Chowne has quoted a case from Dr. Ramsbotham, as an example of active spontaneous separation of the placenta; and his analysis of it clearly shows it be one strongly illustrative of the proposition, that the hæmorrhage continues so long as the placenta is only partially detached, but ceases when it is completely separated. This unusual result no doubt surprised the obstetrician, who, not being aware of the fact, was, perhaps, led to fix his attention more on the mode of expulsion of the placenta than on the positive amount of blood which was afterwards discharged.

The great drift of Dr. Chowne in his comments on this case, as an example of active separation of the placenta, is to show that the main agent to arrest flooding is contraction of the uterus; and to deny that the blood proceeds from the detached portion of the placenta; and it therefore cannot be arrested by its complete detachment. Dr. Chowne, however, forgets that the blood which enters the placenta is from two sources—maternal and fœtal. When a partial separation of the placenta takes place whilst the fœtus in utero is still living, hæmorrhage is sure to occur, because two sources exist from which blood can escape, (vide *The Lancet*, No. ix. Feb. 27, 1847; one current of blood comes through the medium of that portion of the placenta which still adheres to the uterus, and is discharged from the surface of that portion of the placenta which is detached. The supply of blood is demanded by the child from the maternal system, and, when sent, it cannot, from the nature of the accident, return, and therefore is lost. The other current of blood which runs away comes from the uterine venous openings.

There is no doubt, as I have elsewhere stated, that uterine contraction is essentially requisite to suppress bleeding. Partial separation of the placenta excites irregular contraction or spasm, which favours the discharge of blood; whilst complete detachment has a tendency to produce uniform contraction. For further information on this subject, see *The Lancet*, already quoted.

Passive Separation.—Whenever a state of inertia in the uterus exists, there is always a strong predisposition to hæmorrhage; and the blood generally continues to flow violently, until the condition of the organ is changed. This state favours the occurrence of hæmorrhage by the want of tonicity in the uterine tissue surrounding the veins, favouring a torpid return of the blood, and thereby an increased accumulation in these vessels. And when hæmorrhage has taken place, it continues because the muscular tissue does not contract, so as to lessen the calibres of the vessels, or constringe their extremities. So that whenever the placenta is separated, either by nature or art, while the uterus is in this unfavourable condition, hæmorrhage is sure to happen from one source—viz., the uterine venous apertures. It is true that natural "separation purely passive is rare," and no prudent operator, with correct physiological and pathological views of the relative and contingent circumstances of the case, would have recourse to this operation without, at the same time, adopting means calculated to produce a sanitary effect. Indeed, the separation of the placenta, in these cases, is not a passive process, but, on the contrary, depends on active but irregular uterine contraction in the vicinity of the placenta, which is forced from its attachment; but afterwards, this portion falls into the same state as the rest of the organ—extreme atony,

Lancet, Sept. 18, 1847, *p.* 302.

160.—*A Case of Placental Presentation.*—By Dr. R. Lee. On Sunday last, the 16th May, 1847, about eleven o'clock at night, Mr. Angus requested me to see a patient with uterine hæmorrhage, in the ninth month of her first pregnancy. Five weeks before, she was suddenly attacked with hæmorrhage, which lasted for a few hours, during which time she lost about a pint of blood. The hæmorrhage then ceased, but returned again with violence after some days, so that she was compelled to remain constantly in bed, the least movement producing a return of the flow of blood. "In this state she continued five weeks, subjected to an almost constant draining of blood, and at times losing suddenly about half a pint, more especially on excitement or making the least exertion." Dull pain occurred on the morning of Sunday, with profuse hæmorrhage, which continued at intervals during the day. When I first saw the patient, she was very pale, faint, and restless, and the blood was flowing profusely. On examining, I found the os uteri so high up as scarcely to be reached, and the orifice so little dilated as not to admit more than the point of the middle finger, with which the placenta was felt adhering all round to the cervix. I had never met with a more formidable case, as it was not merely impossible to pass the whole hand, but to introduce two fingers to turn the child. A sponge was introduced into the vagina, and pressed up against the os uteri; cold air was freely admitted, and cold vinegar-and-water applied over the hypogastrium. The hæmorrhage was not restrained in the slightest degree by these means, and at two o'clock in the morning it was obvious the patient would soon sink if not delivered. I then passed the whole hand into the vagina, and carried forwards at the back part the middle finger, between the uterus and placenta, where it was detached so as to reach the membranes, which I tore open, and allowed the liqnor amnii to escape. The head of the child presented. Two doses of ergot of rye were then given, and a binder firmly applied around the abdomen. For a short time she seemed to rally, active uterine contractions took place, and we hoped that the hæmorrhage would be arrested, and the head expelled, without the employment of any other artificial means; but these favourable appearances soon vanished, the flow of blood again took place profusely, the pulse could scarcely be felt; the respiration was hurried, and she incessantly threw her arms around her: stimulants were freely administered without any effect.

At six A.M. we resolved to attempt to complete the delivery with the perforator and crotchet. The left hand was completely introduced into the vagina. the fore and middle fingers were with difficulty forced through the os uteri, and the head touched, while strong pressure was being made over the fundus uteri. Along the groove formed by these fingers the perforator was with much difficulty passed up, and the head opened. The crotchet was next introduced along these fingers, and passed through the opening in the head, and a firm hold obtained. With the points of the fingers outside the head, and the crotchet within, firm, slow, and gradual extracting force was employed; and in about half an hour of great exertion and anxiety we had the satisfaction of feeling the os uteri gradually dilating, and the head descending through it into the pelvis. There was no hæmorrhage during the operation, which was completed in another quarter of an hour; and in no long time, with a little artificial assistance, the placenta followed. At eight o'clock the hæmorrhage had entirely ceased, the uterus had contracted, and the pulse was in a satisfactory state. In the evening (17th) Mr. Angus informed me that his patient was doing remarkably well, without one unfavourable symptom.

[We see no reference in the account of this case, to the use of the *plug*, except that "a sponge was introduced into the vagina, and pressed up against the os uteri:" but the vagina was evidently not sufficiently plugged. We maintain that this was an important omission. If, in this case, after the membranes had been ruptured, the vagina had been effectually plugged, and a good dose of ergot of rye given, assisted by Dr. Radford's process of galvanic electricity, the labour pains would have followed, the head would have pressed upon the placenta, and compressed its bleeding vessels against the cervix uteri, or a coagulum would have formed, so as to block up every open blood-vessel; and this would have given time for the dilatation of the os uteri, and the delivery by turning.]

Lancet, May 22, 1847, *p.* 532.

161.—*Fatal Case of Uterine Hæmorrhage.*—By T. LLOYD, Esq., Surgeon to the East London Union.—[The patient, æt 38, in her tenth confinement, was taken in labour at six o'clock A.M., and at ten, a midwife was sent for: the pains occurred every ten minutes until one P.M., when the membranes ruptured; the pains then became weaker, and she had constant hæmorrhage. The midwife gave two drachms of ergot of rye without effect, and then sent for Mr. Lloyd at three P.M. He says:]

Upon my arrival within five minutes after the messenger who had been sent for me, I found the patient exceedingly prostrate, pallid, cold, and hiccuping; the umbilical cord of the child cold and flaccid in the vagina, from which a continuous stream of blood was issuing; the os uteri flaccid and dilatable, not dilated; the head of the child had not entered the brim of the pelvis. Finding no time was to be lost in emptying the uterus, I proceeded to turn, giving the patient some cold brandy and water. On passing my hand by the head and shoulders of the child, I found the placenta lying completely detached from the uterus, on the trunk of the child, and I had to pass my hand between it and the walls of the uterus, to reach the feet. In so doing, I could distinctly feel the hands of the midwife through the walls of the abdomen, which she was supporting. I succeeded in bringing the child down by the feet, with its back to the abdomen of the mother; and after a little delay, from the large size of the head, it passed under the arch of the pubis, the placenta immediately following. Administering some more cold brandy and water, I had the satisfaction of feeling the uterus contract firmly under my grasp, and all hæmorrhage ceased. After seeing a firm band placed round the abdomen, I waited until nearly five o'clock, and finding the pulse rising, and the woman calm, I left her in charge of the midwife, with strict directions that she should not be moved for several hours, and on no account to be allowed to raise her body, even to drink. About six o'clock, my servant fetched me from the house of a neighbouring patient, in great haste, a message having been sent to say the woman was dying; and upon reaching her dwelling, I found her in articulo mortis, unable to swallow a little brandy, which I attempted to pour down her throat. She had, to my great surprise and regret, at her own earnest entreaty, been removed into bed, her linen changed, &c. The midwife had not left the house more than ten minutes, when a slight return of hæmorrhage, followed by fatal syncope, occurred.

About fourteen months previously, she had a twin labour, followed by great hæmorrhage, from which she had rallied with great difficulty.

On Saturday afternoon, the 30th of January, I made a post-mortem examination in the presence of my friend, Mr. Brookes, of Holloway. The body, which was moderately fat, was very pallid; the uterus empty, well contracted, completely blanched, and, as was also the vagina, perfectly entire; the bladder empty, and the whole of the viscera, though bloodless, otherwise healthy.

Lancet, August 14, 1847, *p.* 176.

162.—*On the Treatment of Post-Partum Hæmorrhage.*—By Dr. T. R. Torbock.—[Dr. Torbock proposes to arrest flooding by the injection of stimulants into the uterine cavity. He gives two cases in support of the proposed practice. The first was a patient of Mr. F. Thompson, Sunderland, and was the subject of recto-vaginal fistula: the head was delayed at the mouth of the womb by bands of adhesion, the results of violence used in a previous labour, but after these were divided, the uterine efforts were inefficient to effect delivery, which was therefore accomplished by the aid of the forceps.]

It was at this moment, from the atonic state of the uterus, frightfulæ hmorrhage followed. The ordinary means were used to produce uterine contraction, as pressure, grasping the uterus, secale, and the introduction of the hand into the uterus. At this critical moment was suggested the introduction of a piece of rag, saturated with brandy diluted one-third with water, into the uterine cavity, which was very promptly done; when on a second application it was grasped by the contracting uterus, all hæmorrhage ceased; the patient progressing favourably. The second case was one which occurred in the practice of my friend Mr. H. H. Taylor, the like mode being adopted with the most gratifying results; the stimulant used in this case, if I mistake not, was rum alone.

Medical Times, April 3, 1847, *p.* 116.

163.—*On Galvanism in Uterine Hæmorrhage.*—By Dr. Radford, Manchester.—[Dr. Radford was sent for to a woman in labour with her fourth child, in whom, after the os uteri had become fully dilated and the membranes had ruptured, the uterine action ceased, and she lay without pains, but with constant discharge of blood for more than six hours. Dr. Radford was particularly struck with the thinness of the abdominal and uterine walls, through which the child could be felt as distinctly as if covered only with two thin folds of cotton cloth. It was thought a proper case for the application of galvanism, which was thus employed:]

The power used, at first, was slight, but gradually increased until the lever was placed at the highest point. The two hand conductors were only used, and applied externally on opposite points on the abdomen, varying from time to time their relative positions, thereby carrying the galvanic fluid through the longitudinal, transversal, and oblique diameters of the uterus. The beneficial influence of the remedy was soon apparent, and the extreme atonic state of the uterus was now gradually exchanged; its parietes became firmer, and the edges of the organ, which before were so soft as to appear to float amongst the abdominal viscera, from not being traceable, now became defined. This favourable organic condition proceeded; and the induced pains, at first grinding and slight, became powerfully expulsatory; and the child (a girl,) was born alive at half-past one o'clock, about an hour after we began our operations. As soon as the uterine energy was fully roused, the child was rapidly and forcibly expelled. The hand was applied over the uterus, which was found firmly contracted. The discharge of blood ceased as soon as the uterus began to contract. The placenta was expelled in about five minutes; the uterus had further firmly contracted; there was not the least hæmorrhage, and the constitutional condition of the patient was much improved, and indeed much better than could reasonably have been expected.

The powerful and sanatory influence of galvanism was most decidedly obtained in the preceding case, and the great advantage of this agent is, that its effects may be carried to any degree, from first only exciting the uterus so to contract that its diameters are lessened and that its tissue comes to be applied to the body of the child. These, however, may be at pleasure increased, so as to accomplish the expulsion of the child and placenta. The gradual changes produced upon the uterine tissue were admirably seen in the foregoing case; and also its great power, developed by its continued application, to arrest the discharge, expel the child and the placenta, and leave the organ safe from the occurrence of *post-partum* flooding. It is well here to call to mind, that this woman had in all former labours, serious *post-partum* floodings, and violent after-pains. In the present case, she was saved the danger of the one, and the suffering of the other.

Provincial Med. and Surg Journal, Sept. 22, 1847, *p.* 522.

164.—*On the Application of Electricity to the Uterus.*—By Dr. Golding Bird.—[In his able lectures on Medical Electricity, published in late numbers of the Gazette, Dr. Bird alludes to the practice recommended by Dr. Radford, of exciting the contraction of the uterus by the electro-magnetic current. The practice has been advocated, as our readers are aware, in cases of atony of the uterus, and in placenta prævia, as well as in certain forms of menorrhagia, and for the induction of premature labour; the electricity being applied by means of one conductor passed over the abdomen in the neighbourhood of the fundus, and another introduced into the vagina, so as to touch the os uteri. Dr. Bird tells us that the application of electricity to the gravid uterus, is sanctioned by Dr. Lever; and he then relates a case communicated to him by a former pupil. This gentleman was sent for to a woman æt. 39, in her sixteenth confinement, whose pains had ceased after the discharge of the liquor amnii two days previously. Ergot of rye was given without any permanent effect, and as symptoms of exhaustion appeared, and it was ascertained that the atony of the uterus was the only obstacle to delivery, the practitioner determined to apply the electro-magnetic current. In his communication to Dr. Bird, he says,—]

I was gratified in finding, after a few applications of the remedy externally and obliquely across the anterior surface of the uterus, alternately changing the position of the conducting wires, that a very decided effect was produced. Regular, strong, and frequent pains came on, and, in the course of a quarter of an hour, a living male child and placenta were expelled, attended with the least degree of hæmorrhage I ever witnessed.

The uterus was immediately firmly and permanently contracted, and, with the exception of a slight soreness across the abdomen, the patient expressed herself as feeling quite comfortable. She recovered but slowly, on account of the general debility induced by the affection of the chest, but there was not a single bad symptom connected with the uterus subsequently developed.

I am quite aware, continues Dr. Bird, that Dr. Simpson, of Edinburgh, has expressed his opinion of the inefficacy of the electric current in such cases, and has almost denied its exercising any influence over the uterus. I confess I cannot for one moment admit the validity of his opinions when opposed by the facts of Dr. Radford, Dr. Lever, and others; but would endeavour to show the mode in which these opposite statements appear to admit of reconciliation. This is founded on the opposite effects of currents according as they follow the cause of the centripetal or centrifugal nerves. Now in the magneto-electric coil, in which currents are excited by repeatedly breaking contact by a vibrating bar, the apparatus whose construction I explained at my last lecture, we have, as I have already shown, two currents moving in opposite directions, to each of which the patient who is the subject of experiment becomes submitted. Now these currents are of unequal strength, and if the most energetic, that on breaking contact, be passed in the direction of the *vis nervosa*, it will produce painful contractions, which the moment it passes in the opposite direction will become relaxed. For, as I have proved to you, an inverse current tends to produce paralysis, and a direct contraction. Hence I should urge the accoucheur not to employ the apparatus in which both these currents traverse the patient, but simply the one I have described to you, as the single current machine, and which is now on the table before me. In using this, I would suggest the positive conductor to be placed over the lumbo-sacral region, and the other be carried only over the abdominal surface with a gentle friction. In this way powerful uterine contractions will be easily excited. You will never find any difficulty in getting this apparatus to act efficiently, as it possesses the great advantage of dispensing with the use of mercury, which has been hitherto employed in these single current machines.

Medical Gazette, June 18, 1847, *p.* 1064.

165.—*Ergot of Rye in Uterine Hæmorrhage.*—Dr. Beattie has made some remarks on the value of the ergot of rye as a means of preventing hæmorrhage after delivery, in cases where there may be reason to dread its occurrence. With this view, in cases where hæmorrhage has followed the expulsion of the placenta in previous labours, or where the incomplete contraction of the uterus causes him to dread its coming on, he administers a dose of ergot immediately on the birth of the child. He conceives that the remedy acts both by lowering the action of the heart, as well as by inducing contraction of the uterus. He mentions, moreover, that he has found it of great service when administered in this way, as a means of preventing those intensely severe after-pains which some women suffer, and which opium fails to relieve. He conceives that in these cases it acts by producing a complete contraction of the uterine fibres, and thus preventing the formation of clots in the interior of the organ, by which spasmodic action is excited and kept up.—*Dr. West's Report on Midwifery*, 1845-46.

[Where is the use of deferring the exhibition of the ergot of rye so long? It is a decided improvement to administer it much earlier The pains, in most of these flooding cases, are feeble,—the action of the womb is weak:—it is well. therefore, to give the ergot some time before the child is born: it will then generally prevent the flooding altogether.]

Medical Gazette, July 2, 1847, *p.* 25.

166.—*On the Treatment of Menorrhagia by Indian Hemp.*—By Dr. T. R. Mitchell, Lecturer on Midwifery, Dublin.—[It appears that the value of Indian hemp is not confined to neuralgic cases. Dr. Mitchell recommends it in uterine hæmorrhage, in which disease it was first used by Dr. Maguire of Chapelizod. Dr. Mitchell says,—]

Every one who has given the Indian hemp, is aware that it sometimes produces most distressing nervous symptoms, those of dread and impending dissolution being most predominant. If, however, the medicine be given in small doses, it does not produce this effect, although its powerful influence as an anti-hæmorrhagic remedy is fully developed. There are two tinctures in use, one of the herb, and the other made with the resin—the former is of little use, but the latter is a powerful medicine; when mixed with water it becomes milky, owing to the separation of the resin, to obviate which it is better to combine it with mucilage, or a small quantity of spirit: the dose that I have given of it is ten minims repeated every four hours; sometimes the first dose succeeds in checking a discharge which has lasted months, and that notwithstanding the employment of the most energetic means usually resorted to, including the whole range of astringents and plugging the vagina. In these cases it acts almost like magic. There is another form of hæmorrhage which the practitioner will also find it of great value in; I allude to that distressing, debilitated sort of draining which occurs in some women when pregnant. In these cases the ordinary astringents frequently fail, and the ergot of rye, in consequence of inducing uterine contraction, is inadmissible. In these cases the tincture of hemp will be found peculiarly useful.

I could produce a great number of cases from my case-book, confirmatory of the statement made, but the symptoms of these affections are so well known to every practitioner, that they would only prove tedious, occupy valuable space, and produce no good result. I shall therefore conclude these few observations, with a strong recommendation of this valuable medicine to the favourable notice of the profession.

Dublin Medical Press, Oct. 6, 1847, *p.* 214.

167.—*On the Prevention of Habitual Miscarriage.*—By Dr. Griffin.—Dr. Griffin, physician to the county of Limerick Infirmary, recommends to the notice of the profession the use of tonics and antispasmodics when there is an habitual tendency to abortion or miscarriage. In three cases, which he treated successfully, he employed the following remedies—two grains and a half of oxide of zinc, with two grains of extract of hop, three times a-day; and, after each pill, two table-spoonfuls of a mixture of valerian, aromatic spirits of ammonia, and infusion of snake-root. He recommends also a box of pills to be kept by the patient, containing a grain of opium in each, to be taken when pain comes on, and to repeat the dose every hour till relief is obtained.

Medical Times, May 22, 1847, *p.* 258.

168.—*On Prolapsus Uteri.*—By James Whitehead, Esq., Surgeon to the Manchester and Salford Lying-inHospital.—[Mr. Whitehead says that prolapsus is most frequently a consequence of inflammation and ulceration of the lower part of the uterus. He thinks that pessaries only aggravate the disease, and remarks, that in addition to attention of the general health,—]

The local treatment should consist in applications of nitrate of silver, or other suitable remedies to the diseased surface, and in the insertion of medicated tents by the aid of the*Prolapsus tube.* This latter procedure may be practised immediately after the nitrate has been applied, although the remedy with which the tent is charged be of a very different nature from that of the caustic.

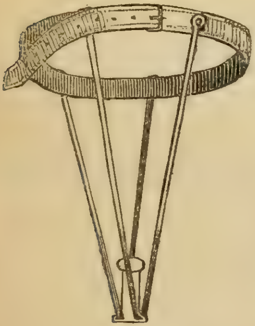
The manner of using the *Prolapsus tube*—which will be found of equal service, in the management of prolapsed displacement of the uterus, as in most other forms of uterine disease, and enables the patient safely and efficiently to apply the remedies herself, without the interference of the practitioner—is extremely simple. The charged tent, to which a length of thread has been previously attached, must be placed in the tube, the upper orifice of which is to be applied against the protruded portion of the uterus, in such a manner as to receive the os uteri within it. The instrument, previously smeared with some unctuous material, and having its curved arm placed anteriorly, in a direction towards the abdomen, is now to be forced gently and steadily backwards, until the whole, or greater portion of it, has passed within the canal, or until a moderate degree of resistance is felt to oppose its further ingress.

The uterus being thus restored to its natural position, the tent or pledget must be pressed upwards against the cervix, and held in that situation by means of a skewer or other suitable instrument, the tube at the same time being gently withdrawn. The recumbent posture should be strictly maintained for several days, and very little exercise taken for some weeks afterwards. The cases recorded were those of poor women, obliged, during treatment, to pursue their domestic duties, which constantly and seriously interfered with the favourable effects of the remedies; hence the reason, probably, why most of them were so long under treatment. The application should be renewed daily, or twice a-day if convenient.

The lotions, used for moistening the lint-tent, are strong solutions of nitrate of silver, sulphate of zinc, sulphate of copper, matico, opium, and tannin. The metallic preparations should not be employed oftener than every third or fourth day, the vegetable applications being used intermediately. An emollient injection should be made use of after the removal of each tent.

Medico-Chirurgical Review, October, 1847, *p.* 400.

169.—*Description of a New Pessary.*—By JOSEPH SCHOFIELD Esq, Bradford.—[The following is a description and cut of a new pessary registered by Mr. Schofield:—]



Description.—The composition is porcelain; the pillar is about three inches in length, circular, and half an inch in diameter; the top is circular, and made of various sizes, being hollowed into a cup-like cavity on its upper surface, for the reception and support of the labia uteri; the bottom is of an oblong figure—its angles rounded, measuring in length an inch and a half, and in breadth half an inch, having two small oblong holes in it, equi-distant from the extremities, through which straps pass to be fixed to a belt around the patient's waist. The straps are composed of vulcanized India-rubber, about twenty-four inches long, half an inch in breadth, and one-eighth of an inch in thickness. There is one strap in front, doubled on itself at the hole in the bottom of the pessary, and its ends are buttoned to the belt; a similar arrangement exists for the back strap. The belt is of a suitable length and breadth, has a buckle at one end, and four buttons on it.

Application.—The belt is to be applied round the waist with sufficient firmness as to prevent its slipping downwards. The buckle is to be placed in front of the abdomen, above, and immediately opposite to the umbilicus; and if the belt is of a suitable length, the buttons front and back will be exactly opposite each other. The distance between the two front buttons should be three inches, and a similar space between those at the back. When the pessary is applied, the lower part of the pillar should press a little against the fourchette, and the straps, when of a proper length, (the length required varies in different cases,) should allow the bottom of the pessary to be from a quarter to half an inch from or below the vulva; for if the bottom of the pessary is immovably fixed in consequence of the straps pulling it so tightly to the vulva as to prevent the slight degree of mobility necessary, (if the case be one of procidentia,) there will be a danger of the uterus slipping from the top of the instrument; but this untoward accident may with certainty be avoided, if the above direction be acted on when the pessary is applied.

Lancet, Nov. 6, 1847, *p.* 492.

170.—ON ULCERATION OF THE CERVIX UTERI, IN VIRGINS.

By Dr. Henry Bennet.

[We have, in previous volumes, noticed Dr. Bennet's important contributions to our knowledge of the inflammatory affections of the os and cervix uteri; first, in women who are married, or have children; secondly, in the pregnant and puerperal state; and thirdly, in those who have ceased to menstruate. Dr. Bennet has now published the result of his investigations of these diseases in the virgin; for he has found that they do occur in the virgin, and that too, not very unfrequently; being a cause of those cases of severe dysmenorrhœa and leucorrhœa, which so inveterately resist treatment. With respect to leucorrhœal discharges Dr. Bennet observes:]

A white vaginal discharge is not, I believe, either the result of general debility or local weakness, or solely produced by inflammation of the mucous follicles of the uterine neck, but the result of congestion of the mucous membrane, lining the vagina and covering the cervix. Thus, this white secretion is frequently, if not generally, observed, in more or less abundance, during the entire duration of pregnancy, when the mucous surfaces alluded to are gorged with blood, and that in the absence of all inflammatory action. With many females, also, it occurs throughout their entire uterine life, a few days before and after menstruation—that is, whilst the physiological molimen hæmorrhagicum is present. I likewise nearly invariably find it coexisting with ulcerative inflammation of the cervix uteri, and it is then apparently secreted by the congested mucous membrane which extends beyond the ulcerated surfaces. The liability to these white, temporary, periodical fluxes, —in a word, to simple leucorrhœa,—is certainly greater in females of lax lymphatic constitution, and of weak health; but we must also recollect that these are precisely the females who suffer the most from disordered functional activity generally, and in whom menstruation is the most apt to be deranged in plus or in minus—thus giving rise to the uterine congestion, which I believe to precede and accompany simple leucorrhœa.

When a leucorrhœal discharge is merely the result of the physiological congestion which accompanies menstruation, it does not last during the entire monthly period, or if it does, for ten days, a fortnight, or more, it is scarcely perceptible. Its existence does not either appear to me to exercise any very perceptible influence over the health of the individual. Thousands of women, especially in towns, have more or less leucorrhœa, for a few days, before and after their menses, during all their uterine life, without their health suffering, and without their thinking of applying for medical relief. Lastly, when this, the simple transient leucorrhœa alone exists, the only symptoms present are, a sensation of pelvic and vaginal heat and fulness, and sometimes, during the menses, the uterine and dorsal pains which characterize dysmenorrhœa.

When there is not merely congestion, but inflammation, and especially if there is ulceration, then the white leucorrhœal discharge is not limited to the period before and after menstruation. It is *permanent*, because the presence of inflammatory ulceration keeps up a continued state of congestion in the surrounding tissues. In these cases, the " whites" may be mixed with an abundant muco-purulent secretion from the ulcerated or inflamed surfaces, and then the discharge is yellow. But if the muco-pus is sparingly secreted, it will often be lost in the whites, and the latter only will be perceptible. The nature of the discharge is, therefore, no true criterion. This is the more true, as in limited ulcerative inflammation of the cervix, in virgins as well as in married women, there may be very little fluid secreted by the ulcers, either of one kind or another, and that little may be *completely* absorbed by the surrounding tissues, so that no discharge is observed. To resume: a yellow purulent discharge indicates inflammation, and, probably, ulceration; a *permanent* white vaginal discharge is also a very suspicious circumstance, as it proves, not the existence of general or local weakness, but permanent uterine congestion—a condition which, generally speaking, is connected with the inflammation and ulceration of the cervix, and which, even if it did exist alone, would soon be followed by such disease. On the other hand, the absence of either a permanent yellow or a white discharge is no proof that inflammatory ulceration may not exist.

In inflammatory ulceration of the cervix there are, nearly always, local pains, and they constitute a much more valuable symptom than the vaginal discharge. These pains are situated in the ovarian regions, especially the left, and in the sacral and sub-pubic regions; such is the order of their frequency. They persist *throughout the entire interval* of menstruation, although they are, generally speaking, much the most severe during its existence. As there may be much pain in all these regions during menstruation, independently of any local inflammation or ulceration, it is only by what occurs during the interval of the menstrual molimen hœmorrhagicum, that we can judge of the existence or absence of ulceration.

The uterus is sometimes low; being congested and voluminous, it falls lower in the vagina than is natural, and then there is a feeling of weight and bearing-down. As, however, the vagina is very contractile in the virgin female, and gives considerable support to the uterus, prolapsus is generally prevented taking place. This change of position of the uterus would, indeed, seldom be observed, were it not that the vagina sometimes gradually becomes relaxed, and loses its tone, from the combined effects of inflammation and congestion. Owing to this natural tonicity and contractility of the vagina in young females, the presence of the feelings indicating partial uterine prolapsus is therefore a very strong presumption that the patient has been suffering from long-continued inflammatory action. In such instances, the pessaries and other local means of support, which are now not unfrequently blindly resorted to, are necessarily attended with the most disastrous results, and generally aggravate the inflammation to an extreme extent. One of the cases which I have to narrate will painfully illustrate this assertion.

In many of the cases that I have seen of ulceration in the virgin female, the most prominent symptom has been dysmenorrhœa carried to an extreme degree. Indeed, as I have already stated, I am convinced that many of the cases of extreme and obstinate dysmenorrhœa, which are at last considered hopeless. and merely palliated by narcotics, will be found, on careful scrutiny, to be cases of ulcerative inflammation of the uterine neck.

[Dr. Bennet remarks that from what we know of the diseases of mucous membranes generally, we cannot suppose that a mere increase of secretion from the mucous membranes of the female genitals, should produce that excessive debility and anœmia which we frequently see accompanying it; but we can readily understand that the assimilating processes should be affected by ulcerative inflammation in an organ with such extensive sympathetic affections as the uterus. Very marked general debility, (in the absence of any decided cachexia,) should lead us to suspect lesion of the cervix or os uteri:—in this case, palliatives, as rest, injections, &c., may be tried; but if they fail, or the case do not admit of delay, we must at once resort to a digital examination. Dr. Bennet observes, that,]

A satisfactorily digital examination of the uterus may be nearly always made in a virgin, without injury to the hymen, especially when the vagina and external genital organs have been relaxed by long-continued congestion and inflammation. The hymen is nearly always sufficiently dilatable to admit the index, introduced slowly and with proper care. Generally speaking, the os and cervix are reached with ease, the cervix not being retroverted, as it is when inflamed in most married females; and when once the finger has reached the os nearly all doubts may be solved. If the cervix is free from disease, it is soft, and the os is closed; if it is inflamed and ulcerated, the cervix is enlarged, swollen, and the os is more or less open and fungous. This open and soft state of the os may also exist from mere inflammation of the cavity of the cervix.

[If possible, we must introduce the speculum without dividing the hymen. The existence of the disease once ascertained, it is to be treated secundum artem.]

Lancet, July 17, 1847, *p.* 65.

171.—*On Ulceration of the Cervix Uteri, accompanying Uterine Polypi.*—By Dr. H. Bennet.—[Dr. Bennet sometime ago stated his opinion that ulceration of the cervix was a not unfrequent concomitant of uterine polypi; and this opinion has subsequently been confirmed by the investigations of Dr. Montgomery and himself. Dr. Bennet has recently published the very interesting case of a lady, who from the age of twenty-five,—fourteen years, had been the subject of repeated uterine hæmorrhages, with pain in the back, and the ovarian regions, and a white vaginal discharge. She had been under medical treatment almost constantly; and presented the sallow countenance, simulating that observed in cancerous disease. Dr. Bennet says,]

On examining digitally, I found the vagina lax, and very sensitive; the cervix low, very retroverted, voluminous, and indurated, but perfectly smooth and even; the os so open as freely to admit two-thirds of the first phalange of the index. The kind of small cavity into which the finger thus penetrated, was soft and fungous to the touch; the uterus was rather voluminous and sensitive to pressure, but presented no nodosities or inequalities. The hypertrophied state of the cervix, and the patent velvety condition of the os, showing at once that there was inflammation of the cervix, and ulceration around and in its os, I explained the necessity of an instrumental examination. This was at once assented to, and with a large bivalve speculum, and in a good light, I raised the retroverted cervix, and expanding the blades to their fullest extent, brought the cervix and open os fairly into view. I then at once saw the cause of the hitherto unexplained uterine sufferings of the patient. Just between the separated lips of the enlarged cervix was a small vascular polypus, about the size of a hazel nut, occupying the cavity of the os, and merely showing its anterior extremity on the blades of the bivalve speculum being expanded. If they were allowed to approximate even partially, the hypertrophied lips of the cervix closed over the os so as to conceal it and the contained polypus. I ascertained, by means of the uterine probe, that the polypus proceeded from the uterine edge of the cavity of the neck, above an inch from the os cervicis. It was connected with the point from which it originated by a soft pedicle. The cavity of the uterine neck was much dilated, and all that portion of it that was accessible to the eye was ulcerated. The ulceration occupied the entire contour of the os for a few lines beyond the point reached by the head of the polypus. The latter was very red and vascular, and so soft as to pit deeply under the slightest pressure. The circumstance of its being thus embedded, as it were, in the cavity of the os, and its softness, accounted at once for its not being perceptible to the touch. The fingers, on examining the os uteri, merely felt a small, soft, fungous cavity, representing the apex only of the polypus, and the surrounding ulcerated tissues. The cervix itself was much enlarged, red, and inflamed, and so much retroverted as to be brought into view with some difficulty.

By means of a pair of speculum forceps with a very small serrated extremity, I broke down, and brought away by torsion, the small tumour, and the greater part of its pedicle. A few drops of blood only were lost. I subsequently cauterized the ulcerated surface, which appeared to extend to the entire depth and circumference of the cavity of the uterine neck.

From this time forward the case resolved itself into one of inflammation and hypertrophy of the cervix, along with deep-seated ulceration; and was treated by the means which I usually employ —cauterization at variable intervals, emollient or astringent vaginal injections, hip-baths, leeches to the inflamed cervix, and rest in the recumbent position. Both the inflammation and ulceration, however, proved very rebellious to treatment. It was only by very slow degrees that the inflammation and hypertrophy of the lips of the cervix subsided. As this latter change occurred, the cervix, which, as I have stated, was very low and retroverted, gradually rose in the pelvis, and reassumed a more normal direction; and the ulceration likewise began to cicatrize. All that part of the ulceration external to the cavity of the os healed in the course of a few weeks, but the internal ulceration proved very obstinate, and the more so the deeper it was situated. It was only after six months' nearly continued treatment that the cavity of the cervix was completely healed. As it cicatrized it closed, until, from being long sufficiently open for an inch in depth to admit a large-sized drawing pencil, it became so contracted as merely to admit the uterine sound. For the last six weeks of the treatment, the ulceration appeared limited to a small deep-seated surface, probably that from which the polypus sprung, near the inner orifice of the cavity of the uterine neck. In order not to destroy the cicatrix of the healed part, in passing caustic up to the ulcerated surface, I used small silver tubes, half an inch in length, which I fixed on the os uteri, and pushed in the requisite depth. The caustic used, always a fluid one, was passed through this tube. When the eye could no longer reach the parts still ulcerated, I judged of its continued existence by the oozing of pus from the lips of the os uteri, and of blood from the surface affected, on its being touched with the uterine probe. At the time the local treatment was thus brought to a close, (last March,) the cervix was at least two inches higher in the pelvis than when I extirpated the polypus. It was also very much smaller, very much less retroverted, and presented no evidence of inflammatory induration, although still rather larger and harder than natural. The vagina was quite healthy. All the uterine organs were very sensible to the touch; but in this respect they merely participated in an exaggerated state of nervous sensibility of the entire economy. Ever since the evulsion of the polypus, there had been no continued sanguineous discharge after the monthly periods, although the purulent discharge was often streaked with blood, especially after cauterization. The menses flowed five or six days rather abundantly, and were then replaced by the purulent or sanguineo-purulent discharge from the ulcer.

A month after her departure from town I again had an opportunity of examining the state of the uterus. I found the os quite closed, the cervix still smaller, and all evidence of internal ulceration gone. She had been nearly entirely free from any show of blood, except during the monthly period, which passed off easily. Subsequently to my examination, however, ten days' extra exertion were followed by a very slight sanguinolent discharge from the uterus, showing that the tendency to uterine congestion and hæmorrhage had not entirely disappeared.

Remarks.—In the above case there are several points more especially deserving of notice. One of the most important is the connexion of the tumour which I found with the symptoms which the lady had suffered for so many years. There can be no doubt in my mind that the hæmorrhage which she experienced in America was owing to the existence of the polypus, then concealed, however, within the cavity of the cervix. Hæmorrhage at the monthly periods is one of the most prominent and most universal symptoms of uterine polypi, and occurs with the smallest polypi, as well as with the larger ones. In the course of time, no doubt, the polypus occasioned inflammation and ulceration of the mucous surfaces with which it was in contact—thus giving rise to all the symptoms which are produced by inflammatory ulceration of the cervix uteri. As I have already stated, I firmly believe that the production of such ulcerations is very frequently, if not generally, the result of the presence of polypi issuing from the os uteri; so that the practitioner has, in most cases, two diseases to treat,—the uterine tumour, and the inflammation and ulceration produced by it. In the case which I have just narrated, the ulcerative inflammation may be considered as important an element in the disease as the polypoid tumour, if we judge by the reaction which they each produced on the economy. The polypus debilitates the system by the continued losses of blood which its presence occasions; but the ulcerative inflammation has an equally pernicious effect on the processes of assimilation and nutrition, through the sympathetic reaction which it produces.

Although, as this case shows, the additional existence of ulcerative inflammation is of extreme importance in the history of uterine tumours, it is, as yet, I may say, generally unknown to the profession. It is not even alluded to in a recent able work, written, *ex professo*, on uterine tumours, by Mr. Stafford Lee, and is not mentioned by any writer that I am acquainted with, always excepting the recent able article of Dr. Montgomery.

The extreme irritability of the nervous system, and the nervous pains noticed in this case, are not at all extraordinary. It is what we meet with continually in cases of great anæmia and physical exhaustion, whatever may be the cause. The most curious feature, however, in the history of the patient, is the fact of the existence of the tumour not having been recognised during the many years she was under medical treatment. The last error shows, that even instrumental examination does not always convey information, if imperfectly carried out. It would never have been committed, had the practitioner who made the examination used a bivalve speculum, when he found thet the os uteri was open and fungous, so as to separate the lips, and to examine the cavity of the os. This is a precaution which should always be taken when the os appears open to the touch, and there is consequently reason to believe, that the cavity of the cervix is diseased. Cylindrical and conical specula of the ordinary size do not always open the os sufficiently to admit of the eye penetrating into its cavity, and should not, consequently, be exclusively used in such cases. Indeed, no one speculum will answer for all cases, some requiring one size or form, and some another size or form. No artificial light, either, is equal to the full light of early day; and that position is best which best enables you to throw the daylight on to the structure examined, without any reflectors or other artificial assistance.

Lancet; June 5, 1847, *p.* 582.

172.—*On Deep Cauterization of the Cervix Uteri.*—By Dr. Simpson, Professor of Midfery, Edinburgh.—Dr. Simpson stated that his own observations fully confirmed the recorded opinions of Dr. Bennet and others regarding the general dependence of leucorrhœa upon inflammatory ulceration and induration of the cervix uteri. He had found inflammatory enlargement and induration of the tissues of the cervix very frequent in practice, and existing, in fact, in most cases of very chronic and aggravated leucorrhœa. In practice he had seen it mistaken for the induration and ulceration of carcinoma, &c. Formerly, in the treatment of these common cases, Dr. S. had employed the frequent local application of leeches, and counter-irritation to the sacrum, &c., with the use of pessaries of mercurial and iodine ointment, keeping the indurated tissues imbedded in these applications, &c. The cure in this way is tedious, and months are often required before the indurated parts become reduced. Various local escharotics, partly to destroy the indurated tissues by direct decomposition, and partly to soften down the remainder by new inflammatory action, have been in modern times employed for the same purpose, and with much more certain and expeditious effect. Dr. S. had in this way employed in a number of cases nitrate of silver often applied, Vienna paste *(potassa cum calce,)* and nitric acid. He stated the particulars of a case which he had treated successfully four years ago with nitric acid, and he had lately seen the patient in perfect health; it was at the time supposed that she had cancer uteri. Latterly, Dr. S. had abandoned these and other escharotics, and now always used the common *potassa fusa.* He had found it far more manageable, speedy, and certain than any other method. He used it of course through the speculum, applying a stick of it freely with a proper caustic holder to the ulcerated and indurated tissues. It required to be rubbed or held strongly for a time against the part which was to be destroyed. In general a piece three-quarters of an inch, or an inch long, was melted down. The decomposition produced by it often caused a hissing sound. If the induration is extensive, and the whole cannot be removed at once, increased action and absorption are set up in what remains, and the parts adjacent become softened and diminished in size. Absorption in this way was truly one of the results or consequences of inflammation, though still an undescribed termination. In some aggravated cases two or more applications of the caustic are required, at intervals of eight or ten days. Dr. S. has never seen pelvic cellulitis, or any other bad result follow. The appearance after the operation is as if a portion had been clean cut out with the knife. A large quantity of vinegar and water is immediately thrown up through the speculum to neutralize the potassa, and prevent it from injuring the sound parts. A copious purulent discharge usually follows for several days, requiring the use of astringent washes, or zinc ointment pessaries. When the whole of the induration is once removed, the remaining ulcer heals rapidly and permanently. An ulcer over an indurated part may be cicatrized, but it is almost certain to break out again and again till the induration itself is reduced.

Monthly Journal, July, 1847, *p.* 71.

173.—*On Deep Cauterization of the Cervix Uteri.*—By Dr. Smith Tyler, Dublin.—[Dr. Tyler gives an account of a method of treating obstinate affections of the cervix by the actual cautery, practised by M. Jobert de Lamballe, of St. Louis, Paris. He says it is not only the most effectual, but the least painful mode of treatment. Dr. Tyler says,—]

M. Jobert recommends the application of the actual cautery in all obstinate cases of engorgement, or hypertrophy of the cervix, especially when accompanied with induration and deep ulcerations, that have resisted all other means of cure; he has also applied it, with marked benefit, to cancerous and other malignant growths, arising from the same situation; by means of it, checking the profuse hæmorrhages which had hitherto been wearing down the patient, and also destroying by its agency the diseased growths, so effectually as to give hopes, if applied sufficiently early, that the entire of such diseased structures might be permanently and safely eradicated.

Like many received remedies, the use of the actual cautery in the treatment of uterine disease may be much abused. In the hands of unskilful operators, serious damage might be done to the adjacent parts; however, this can scarcely happen with ordinary precautions, and caustics are liable to the same objections. That M. Jobert uses it much too generally for the treatment of affections, that might be quite as well cured by less formidable remedies, there is no doubt. At the same time I feel assured, that the benefits obtained from its use, in diseases hitherto resisting all ordinary caustics, will fully bear out the expectations of its present advocates.

M. Jobert employs three kinds of cauteries—1st, a conical-shaped one; 2dly, one with a flattened extremity; and lastly, the round. The surface of the cautery must be perfectly smooth, and when used should be heated to a white heat. It is kept in contact with the cervix one or two seconds, or longer if you wish to destroy the diseased structure. I have seen M. Jobert introduce it a second time for that purpose; he always uses an ivory speculum, as being a non-conductor of heat.

The great advantages which the actual cautery possesses over all other escharotics are, 1st, the rapidity of its action; 2dly, the power of regulating the amount of influence, according to the effect wanted to be produced; 3dly, it appears to have a more decided influence, in melting down an hypertrophied cervix, than any other application except the Vienna paste; and 4thly, as a means of destroying malignant disease.

Monthly Journal, June 1847, *p.* 939

174.—ON MALIGNANT PUERPERAL FEVER.

By Dr. G. B. Clark, Surgeon to the Colchester Union House.

[Dr. Clark had two fatal cases of puerperal fever in quick succession: a post-mortem was refused in both cases, and therefore he was unable to ascertain the exact pathology of the disease; but on the occurrence of the second case, he ascertained what was supposed to be its cause. He says,—]

On revolving these cases in my mind, and remembering the connection of erysipelas with this direful disease, it immediately flashed across me that I had been treating, and had then under my care, a most severe case of phlegmonous erysipelas in a sailor, who was brought into the hospital of the Colchester Union House. The disease extended from the hand to the axilla, and was treated by free incisions, aided by nitrate of silver. The man recovered from one of the most severe cases I ever witnessed. The day that I made the incisions, on that afternoon I attended Mrs. F., and I think, however painful for me to feel and relate, there can be little doubt that if no noxious matter was carried, at all events the effluvia remained, and thereby arose this malignant fever.

[Dr. Clark very prudently desisted from midwifery, and as soon as possible from all practice whatever, and took a sea voyage. As to the nature of the disease, we have the following judicious remarks:—]

It has ever and anon occurred to me in practice, that a much more correct system of nosology is wanted; it would lead to a more accurate diagnosis and treatment, and to none more so than in the disease before us. We have a constant blending of this malignant fever (if I may so call it) with puerperal peritonitis, common puerperal fever, and its other inflammatory forms. It does appear to me it would be better if it were severed from its companions, and joined to typhus (in its graver forms,) Asiatic cholera, and poisoned wounds. Its symptoms certainly resemble the latter more than the former. In the one (puerperal peritonitis) we have the symptoms of *excitement*, in the other more of *collapse*,—in the former we have a fixed acute pain of abdomen, not limited to one spot, dryness of skin, furred tongue, pulse quick and wiry, complete suppression of the lochia, well-marked rigors, and, I might add, yielding to a prompt and vigorous treatment. In a pretty extensive midwifery practice of ten years, I have had frequently to treat peritoneal inflammations, and have found them, without an exception, yield to purgatives and bleeding, general and local, principally the latter, followed up by calomel and opium, until the gums were affected. Now let us turn from this disease to the one before us: we have pallor of countenance, excessive dejection of spirits, great rapidity of pulse, scarcely to be counted; muttering delirium; pain, if much, confined to one spot, but it may almost be said, a freedom from pain; indistinct rigors; dripping perspirations; slight discharge of lochia; tumid abdomen, with restlessness and anxiety of breathing, not yielding to treatment. In the post-mortem appearances of puerperal peritonitis, we have the peritoneum uniformly red, and often thickened with effusion of serum, with flakes of coagulable lymph: the intestines are distended with flatus, and matted together by patches of lymph. In the malignant puerperal fever, the peritoneum has a dusky hue, unlike the bright florid appearance of acute peritonitis; fœtid gas in intestines; the effused fluid has a dirty brown, often bloody appearance; shreds of lymph destitute of firmness, the general appearance being bleached, with little or no vascularity. As authors differ so much in their pathological views of this disease, it is not to be wondered their treatment varies in a like degree. Much is to be accounted for by the fact that they have been treating different diseases, such as puerperal peritonitis and sporadic cases of puerperal fever, in all of which bleeding is highly necessary and successful; but in the malignant cases I have described, I did not use the lancet, and if ever I had the misfortune to be again visited by such a calamity, I must confess I should still pause before using it. I do not say, if I had a number of cases, I would not, as an *experimentum crucis*, use it, even although its success is not so flattering as many of its distinguished advocates would lead us to suppose. I certainly, reasoning theoretically, would feel more inclined to commence with wine, ether, and ammonia; and if I succeeded in rallying the system, trusting to the speedy introduction of mercury, aided perhaps by local bleeding, if required.

From the above, I think the following conclusions might be drawn—1st, that the origin of these cases arose from erysipelas; 2d, a more clear case of the contagious nature of this malignant fever could hardly be well brought forward; 3d, that it is a disease (per se) depending on a subtle poison, giving a "shock" to tha nervous system: 4th, no treatment hitherto snccessful; 5th, the absolute necessity of the practitioner ceasing for a time from practice, not trusting as some recommend, to simple ablution, change of clothes. the use of chlorides, &c. A heavy moral responsibility rests upon him, and, at whatever personal loss and risk of professional reputation, it ought not to deter him from giving up practice.

Medical Gazette, August 20, 1847, *p.* 332.

175.—*On Dysmenorrhœa occasioned by Ulceration of the Os and Cervix Uteri.*—By Dr. Edwards, Physician to the Bath Dispensary, &c.—[From independent investigations Dr. Edwards has formed the same opinions upon this subject as Dr. Bennet. His conclusions are:]

1st. That dysmenorrhœa is occasionally only a symptom of this disease, resulting from congestion and ulceration of the cervix and os uteri.

2nd. That sterility is a most frequent attendant, though not, as has been considered, a necessary condition, the mechanical obstruction in the uterine neck being sufficient to account for it, as in dysmenorrhœa.

3rd. That abortion is occasionally produced by it; when it does occur the disease is commonly aggravated, sometimes altogether lit up by it.

4th. That when the os uteri as well as the cervix, is ulcerated, the mischief extends from the former to the latter. The os uteri is generally the last part to yield to the remedies. In the treatment it is well to remember this fact.

5th. That in the generality of cases that have occurred to me, the nitrate of silver has answered all the purposes of an efficient caustic, and that I cannot but view the actual cautery, the Vienna paste, the pernitrate and acid nitrate of mercury, as well as nitric acid applications, of too violent a character for ordinary use to that portion of the body.

Provincial Med. and Surg. Journal, Sept. **8, 1847, *p.* 481.**

176.—*On Electricity in Amenorrhœa.*—By Dr. G. Bird.—In electricity we possess the only really direct emmenagogue which the experience of our profession has furnished us with; I do not think I have ever known it fail to excite menstruation where the uterus was capable of performing this function. Disappointment will, however, most certainly result if we have recourse to electricity merely because a girl does not menstruate; and we must never lose sight of the fact that, after all, the large majority of cases of amenorrhœa depend upon an anæmic condition; and the patient does not menstruate, simply because she has no blood to spare. Nothing can be more ridiculous than applying electricity or any other local stimulant to the uterus when chlorosis exists; the first great indication will be to restore general health, give iron to make up for the previous deficiency of that element in the blood, and then, and not before, think of stimulating the uterus. It is true that, in a large proportion of cases, the catamenia will appear as soon as the chlorosis is cured,—of course, in such cases, there will be no need of the employment of electricity; but still a large number will occur in which, even after the complete relief of the chlorotic and anæmic condition, the uterus remains torpid and refuses to act; in such cases a few shocks transmitted through the pelvis seldom if ever fail in effecting menstruation. I have repeatedly known the catamenia, although previously absent for months, appear almost immediately after the use of the electricity; in more than one case the discharge actually appeared within a few minutes. The mode in which electricity has been generally employed, has been by transmitting a dozen shocks from an electric jar, holding about a pint, through the pelvis; one director being placed over the lumbo-sacral region, the other just above the pubes. In private practice, in which the employment of the cumbrous electric machine is very inconvenient, I have substituted with advantage the induced currents of the electro-magnetic apparatus, the conductors being placed as before. The alternating current may be used in these cases, as the electricity appears simply to act as a local stimulant, quite independent of exciting any uterine contraction.

Medical Gazette, June 18, 1847, *p.* 1068.

177.—*Removal of an Ovarian Tumour during Pregnancy.*—By H. E. Burd, Esq., Senior Surgeon to the Salop Infirmary.—[The patient, twenty-five years old, who had been married four years, and had three children, had observed a tumour in the abdomen for upwards of twelve months. The tumour was on the right side, irregular, loose, and unfluctuating. She had menstruated regularly until six weeks before the time when she presented herself: she felt confident that she was not pregnant, and examination per vaginam and by the stethoscope failed to discover any sign of pregnancy. On the 15th of September, 1846, the bowels having been evacuated by castor oil the day before, Mr. Burd operated. A small incision was made upon the tumour midway between the umbilicus and pubes; by passing the finger through this opening and round the tumour, no adhesions could be felt, and the incision was then extended downwards to the pubes, and upwards to within an inch and a half of the ensiform cartilage, The tumour was too large to remove even through this extensive incision, and it was therefore tapped, and upwards of three gallons of thick fluid drawn off.]

On drawing the tumour forward so as to examine its pedicle, the uterus was brought into view in a gravid state, and was supposed to have reached the third or fourth month of pregnancy. The pedicle of the tumour was extremely thick and broad, requiring to be tied in three different compartments with strong twine ligatures. The bulk of the pedicle made it so difficult, even with this division, to draw the ligatures sufficiently tight, that when the tumour was separated from the pedicle the upper and outer one slipped, and had it not been for the prompt assistance of my colleagues, a fearful hæmorrhage would have ensued. Another strong ligature was, however, immediately passed through the pedicle, and being tied, prevented further bleeding. It was yet thought more safe to search for the mouths of the vessels, and place a silk ligature round each separately. This being done, and the parts having been thoroughly cleaned, the margins of the incision were brought into apposition by a few interrupted sutures; a cordial was then administered, and the patient was placed in bed. The lips of the wound were now accurately brought into contact by other sutures; and adhesive plaster, a few compresses of lint and a bandage completed the dressing. The pulse was at this time 88, small and weak.

Ordered—T. opii ʒj. statim.

On examination of the tumour, after removal, it was found to consist of a multiplicity of sacs surrounded in some instances by solid matter: all of these sacs were situated anteriorly, which circumstance, no doubt, gave the swelling its irregular form in front. The fact of the tumour being sacculated would have rendered it impossible to empty it by tapping, and of course the solid matter would have remained after that operation. The walls of the cysts were thick and firm, and the whole tumour, with its contents, was computed to weigh not less than 50 lbs.

[On the 17th abortion took place, from which the woman suffered little. On the 6th of November the wound was quite healed, and she left the hospital on the 15th.]

Med. Chirurgical Transactions, Vol. xxx., 1847, *p.* 95.

178.—*On Non-malignant Tumours of the Uterus, with the Symptoms of Cancer.*—By Dr. Shearman, Rotherham—[Dr Shearman relates the case of a single lady, aged 48, who was supposed to have cancer of the womb. The catamenia had been suddenly suppressed two years before, and since then she had suffered from sharp pains in the back, loins, and front of the thighs, of periodical occurrence, accompanied with sanious and bloody discharge. On examination, Dr. S. discovered that the os and cervix were perfectly normal : he says—]

I succeeded in dilating the vagina with a sponge tent, introduced with great difficulty Simpson's Speculum Vaginæ, and through that his uterine sound, five inches and a half into the uterus, which I examined from the abdomen in front and through the rectum behind, and found perfectly moveable. A deluge of blood followed this examination, but I was quite satisfied *the neck and mouth of the uterus were not diseased. I assured her she had no cancer ;* but that her disease consisted of a tumour of some kind *in* the uterus. I gradually dilated the vagina and os uteri by means of sponge tents and Simpson's uterine dilators, until I could see and feel the tumour in the uterus. I then introduced the uterine sound, passed it all round the uterus to ascertain the nature of the tumour, and during that operation I accidentally detached the tumour from the lining membrane, and it came away with considerable hæmorrhage, in one piece, weighing four ounces. The hæmorrhage ceased under the influence of ergot; the nocturnal periodical pains became very much diminished, and I was in great hope my patient would get well; but in the course of a few weeks the old periodical pains and discharge returned; and on a fresh examination with the speculum and uterine sound, I discovered a new growth of tumour.

There being no pedicle to this tumour, I could not expect to detach it again advantageously; I therefore determined to try the effect of iodine internally and externally, in the form of tincture, balls, and injections, assisted by quinine and iron, and acetate of morphia, to relieve the pain. I have pursued this plan for four months; the result is she has less uneasiness of every description; her nights are good; her appetite, strength, and flesh have improved; and the tumour, as ascertained by the uterine sound, has decreased in size an inch and a half; *the os and cervix uteri remain perfectly normal.* She is now quite convinced that her disease is *not cancer*, and lives in hope that she may eventually be quite cured.

[Another female 35 years of age, who had been married five years, but had not been pregnant, was afflicted with agonizing burning pains, which came on periodically every night and ceased in the morning. She had also frequent hæmorrhage, and a discharge which looked like sanious pus. Dr. Shearman found a tumour within the uterus, a bit of which he cut off and examined under the microscope. It was found to have a fibrous structure; and the same treatment was therefore ordered as in the other case, together with tonics and the cold shower bath. By this treatment the symptoms were alleviated, and the tumour almost entirely disappeared. Dr. Shearman says—]

The only tumours growing from the internal membrane of the uterus described by authors, are soft and hard polypi, encephaloid, cauliflower excresence, hæmatoma, scirrhus, and fibrous; the latter often running into osseous and calcareous tumours. The symptoms and progress of these diseases are quite different from those I have described; and I have consulted the works of Dr. Montgomery, Dr. Davis, Dr. Lee, Dr. Churchill, Dr. Lever, Ingleby, Dr. Gooch, Dr. Ashwell, Dr. Marshall Hall, Dr. Henry Bennet, Boivin and Dugés, by Hemming, and Mr. Lee's Prize Essay, and can find no notice of a disease like the three cases detailed, all of which might be so easily mistaken for scirrhus and cancer, unless examined carefully by the aid of Simpson's speculum sound and dilator.

The first morbid change which takes place in scirrhus uteri is induration *in* and *around* the muciparous glands or vesicles; called by some *ova Nabothi*, which exist in great numbers in the cervix and margin of the os uteri. This induration is caused by the deposition of scirrhous or tuberculous matter, which thickens the parts, and gives them a greater volume, so that they feel unequal, bumpy, and knotty, like the ends of one's fingers drawn together; but in the cases described, no thickening or hardness can be either seen or felt. The severe pains are difficult to account for, unless the irritation and stretching of the neck of the uterus by the tumour can be considered sufficient; but even then, it is still more difficult to account for the absence of pain in the day time.

Prov. Med. and Surg. Journal, June 30, 1847, *p.* 343.

179.—*On Fibrous Tumours of the Uterus.*—By Professor SIMPSON.—Dr. Simpson adduced the opinion of Dr. Ashwell, who, in discoursing on this subject, inculcates the propriety of inducing premature labour in order to evade the danger of inflammation of the pelvic tissues and peritoneum, and the still more hazardous evils of unhealthy softening, suppuration and ulceration of the tumours themselves. But Dr. Simpson stated that he entertained very serious doubts of the correctness of the observation of Dr. Ashwell, that fibrous tumours had a tendency to soften during the latter months more than at any other period of pregnancy; and disapproved of the induction of premature labour as a general rule of treatment in such cases, believing, as he did, that the excitement of the uterus by artificial means to the premature expulsion of its contents, would be as likely to induce such anticipated morbid actions, as the supervention and completion of a natural pregnancy and labour. He believed, that the only cases of this kind which demanded the induction of premature labour were those in which the tumour encroached upon the brim of the pelvis, and thus produced such contraction of the maternal passages as rendered a natural labour impossible.

Dr. Simpson called attention to the manner in which nature sometimes proceeds to stop the progress of these tumours; namely, by the gradual transformation of their fibrous tissue, firstly, into a cartilaginous and then into an earthy and almost inorganic mass, not prone to enlarge or change its condition. He stated, that this alteration seemed to indicate the death, or at least the cessation of the reproductive action of those cells which form the essential growing constituent of the tumour. He cited, in illustration, the analogous case of some entozoa, particularly the *trichina* and *cysticerus*, which, after their death, were sometimes found, with their containing cysts, ossified. Further, Dr. Simpson mentioned the interesting experiments of Rayer, in which that pathologist induced the artificial transformation of normal fibrous tissue (such as the ear of the rabbit), into cartilaginous and osseous substance by the repeated or continued irritation of it. And, as a result of these remarks, Dr. Simpson suggested the possible induction of osseous transformation as an indication of treatment in fibrous uterine tumours. He thought that the repeated transmission of a galvanic current through the tumour might possibly produce the required degree of irritation and its desired result.

Monthly Journal, Aug., 1847, *p.* 139.

180.—*On Sterility.*—By Dr. E. Rigby.—[Dr. Rigby classifies sterility under the two heads of organic and functional; comprehending under the first, congenital defects, contractions and occlusions of the passages, uterine tumours, and organic diseases of the ovaries and Fallopian tubes. He says:]

Under the second, which I propose to denominate the functional form of sterility, we must class inflammation of the ovaries, inflammation of the cervix uteri; inflammation, ulceration, &c., of the os uteri; displacement ef the uterus; rheumatic or gouty affection of that organ; menorrhagia, leucorrhœa, and general debility of the whole system, whether causing, caused by, or unconnected with, any of the affections just enumerated.

This form of sterility, which depends on functional derangement, displacement, or debility, presents a much more encouraging field for investigation, and also for removing those causes of ill health and suffering which are so intractable and obstinate under ordinary treatment.

[Dr. Rigby relates in illustration a case not strictly of sterility, for the patient was unmarried, but of amenorrhœa, apparently dependent upon imperfect development of the uterus. The patient was of chlorotic appearance and epileptic: and Dr. R. thus reports:]

October 19, 1846.—Had never menstruated until three months ago, when she was under my treatment at St. Bartholomew's. I succeeded in bringing on the discharge by the internal use of ergot and borax, aloetic enemata, and sinapisms to the mammæ, while, at the same time, a slight application of argenti nitras was made to the cavity of the uterus, and galvanism directed through the pelvis. By this combined treatment a tolerable discharge of catamenia was effected, with considerable improvement in her general health, and diminution in the frequency and severity of the epileptic fits. These, however, have contiuued to recur from time to time, especially just before the subsequent catamenial periods.

Was admitted into the hospital for women shortly before an expected catamenial period.

Examination per Vaginam.—Cervix small and taper, soft and flabby; os uteri minute; the uterine sound passed with some difficulty, but showed a uterus of the natural length; it felt light and thin as regards its parietes.

℞. Sodæ biboratis, ℈j.; secalis cornuti, ℈ij.; misturæ acaciæ, ʒij.; aquæ cinnamoni. ℥iij.; sumat demid. statim et repet. post horas duas.

℞. Pulv. aloes, ℈j.; mistura acaciæ, ʒij.; aquæ, ℥ij.; M. ft. enema. Applicetur sinapismus utræque mammæ.

Hirudines vj. vulvæ; semicupium calidum.

Oct. 11.—The menses appeared to-day; the discharge was copious, and attended with little pain.

Oct. 20.—Pulse quick, face pale, anæmic-looking.

℞. Pil. hydrarg., gr. iij.; ferri sulph., gr. ij.; extr. hyoscyami, gr. v. M. ft. pil. ij. o.n.s.

Oct. 27.—Still anæmic-looking.

℞. Ferri citratis, gr. v.; acidi citrici, gr. xv.; aq. distil., ℥j. M. ft. haust.

℞. Potassæ bicarb., ℈j.; syrupi aurant., ʒj.; aquæ destill., ℥j. M. ft. haustus cum haustu superscripto ter die inter effervescend. capiendus.

Nov. 4.—Expects to be unwell next week. Lallemand's instrument for applying caustic to the urethra was passed through the canal of the cervix into the uterine cavity, and the inner surface touched with nitrate of siver. Rep. med.

Nov. 10. The catamenia have appeared to-day copiously, and without pain; the epileptic fits are less in number and severity. Rep.

[In December and January the nitrate was applied to the cavity of the uterus on the day before that of the menstrual period; and upon each occasion the catamenia appeared. In February and March the catamenia appeared before the time. She continued to have frequent fits, and on the 26th of March, a sponge, moistened with ether, was ordered to be applied to the nostrils at the approach of a fit.]

March 30.—Has had several fits since last report. On the 27th, sponge dipped in ether was applied to the mouth and nostrils on the threatening of a fit; had several precursory symptoms of a fit, which disappeared on the application of the ether. Rep. medic. and ether.

April 6. – Has had one severe fit since last report. The ether has been administered at the approach of several, which have been kept off Rep.

April 13th.—Has had two slight fits, which came on before the ether could be used; another was threatened, but it was prevented by the ether, although considerable drowsiness followed, as after a fit. Rep.

April 26.—Has had two fits since, one of which occurred under the influence of the ether.

This interesting case presents a variety of points well worthy of observation. It would be difficult to decide between cause and effect in the symptoms which have been enumerated; they may be summed up under three heads—anæmia, amenorrhœa, and epilepsy. The first is evidently capable of producing the two latter; but I presume it just to consider that the amenorrhœa might have tended in no slight degree to have kept up the disposition to anæmia and epilepsy.

I had endeavoured to correct this state by alteratives and tonics when she was at St. Bartholomew's, and then proceeded to make a vigorous effort for the purpose of rousing the uterine system. Besides the treatment which I have before recommended under such circumstances, I adopted the plan of rousing the uterus to a menstrual effort, which my friend Professor Simpson recommended to me, viz , of passing a piece of lunar caustic into the cavity of the uterus by means of an instrument similar to that which has been used by Lallemand for the urethra, and painting its inner surface with it; this acts as a considerable stimulant to the uterus, and, if the powers are equal to the task, a secretion of catamenia generally follows in the course of twelve or twenty-fours hours after. In the present case this succeeded with the assistance of a variety of other measures, which, when combined, produce a powerful effect upon the uterine system, and evident relief followed; by a repetition of these measures, after a proper interval, the uterus gradually acquired the habit of making a periodical effort to secrete the catamenia, which became free and even copious in quantity. I tried my best to improve the general powers of the system by tonics, good food, and rigid attention to the state of the digestive organs; but the pulse continued feeble, the face pale, the tongue flabby and indented at the edges; some of the more powerful tonics, as nitrate of silver and sulphate of zinc, which are considered to act very beneficially in epilepsy of the low anæmic character, were tried, and a certain amount of relief was produced; but, on looking over the history of her case, I cannot help coming to the opinion that mild sedatives allayed the epileptic seizures more than any other medicines which were exhibited, and I much regret that they had not a more decided trial. The ether appeared decidedly beneficial at first, and appeared to ward off the fits very effectually at the onset, whenever the warning of their approach was sufficiently long; it appeared, however, gradually to lose its effects, and she went into the country with considerable benefit to her general health.

Medical Times, Aug. 7, 1847, *p.* 468.

181.—*On Nervous Disorders connected with Pregnancy.*—By Dr. Lever.—With respect to the cases of chorea with pregnancy, I am of opinion that the spinal system of nerves is affected secondarily through the ganglionic. The cases of paralysis, whether of the cerebral or spinal nerves, would appear to be produced by a cause that is temporary; in common parlance, it is functional paralysis; but the indiscriminate use of this term has too often given rise to much confusion. In the language of a living writer—

"The state of an organ necessary to the correct execution of its functions is a living, not a dead condition: it requires, not merely a certain organization, as we find it after death, but a supply of healthy blood in a certain quantity; a natural state of nervous influence and sympathy; and perhaps other circumstances not clearly understood." If all these conditions are combined, can we consider it possible that the function should be disordered? If one or more should be altered, or wanting, can the disease be properly regarded as simply functional? We oftentimes apply the term "functional," when our unassisted senses fail to detect any changes in structure or consistence.

Are these temporary disorders, which are developed during pregnancy, liable to become permanent in after-life? Neither my age nor my experience warrants me in giving an opinion. This I must therefore leave to the more advanced members of the Society.

In conclusion, I venture to submit the following propositions:—

1. That pregnancy is occasionally associated with chorea, or convulsive movements; with paralysis of various parts of the body, of the extremities, and of the nerves of special sense; and with mania.

2. That the varying symptoms of such complications may be produced at any period of pregnancy; but when produced, although modified by treatment, are rarely removed during the existence of gravidity.

3. That the patients in whom these complications exist are women of a highly-nervous temperament, of great irritability, or whose constitutional powers have been reduced by some long-continued, but serious cause of exhaustion.

4. That in the treatment of such cases heroic measures are not to be employed: that the curative means consist in improving the secretions, keeping the bowels free, and administering those medicines, and employing that diet, which will increase the tone and energy of the nervous system.

Lastly, That although, in most instances, the symptoms will continue so long as pregnancy exists, yet in the majority of cases we are not justified in inducing a premature evacuation of the uterine contents.

[The medicines employed were chiefly sulphate of zinc, gr. i. to v. thrice a day, with or without ext. gentian. gr. iij. in each pill: or ferri sulph. gr. i.; quin. sulph. gr. i.; pulv. capsici gr. i.; pil. aloes comp. gr. i; ter die, with the addition occasionally of pulv. valerian. gr. xij.; or the valerianate of zinc.]

Guy's Hospital Reports, 1847, *p* 24.

182.—*On the Connection between Albuminuria occurring during the Puerperal State, and certain Lesions of the Nervous System.*—By Professor Simpson.—Dr. Simpson detailed some cases illustrative of the effects of Bright's disease, as denoted by the appearance of albumen in the urine under the action of heat and nitric acid. He drew the following conclusions:—

1. Albuminuria, when present during the last periods of pregnancy and labour, denotes a great and marked tendency to puerperal convulsions.

2. Albuminuria, in the pregnant and puerperal state, sometimes gives rise to other and more anomalous derangements of the nervous system, without proceeding to convulsions; and Dr. S. had especially observed states of local paralysis and neuralgia in the extremities, functional lesions of sight (amaurosis, &c.,) and hearing; hemiplegia and paraplegia more or less fully developed.

3. Œdema of the face and hands (going on occasionally to general anasarca) is one of the most frequent results of albuminuria in the pregnant female.

4. The presence of this œdema (3) or of any of the lesions of the

nervous system (2) with or without the œdema, should always make us suspect albuminuria; and, if our suspicions are verified by the state of the urine, we should diligently guard, by antiphlogistic means, &c , against the supervention of puerperal convulsions.

5. Albuminuria, and its effects (1, 2, 3) are far more common in first than in latter labours, and these constitute a disease which in general disappears entirely after delivery. But Dr. S. had seen one case commencing with slight blindness, but no œdema, and ending gradually in hemiplegia where the palsy partially remained after delivery, and after the disappearance of the albuminuria. In another, amaurosis came on with delivery, and had been present for six months when Dr. S. first saw her. She had no œdema or other symptom of albuminuria except the amaurosis; but, on testing the urine, it was highly albuminous.

6. Albuminuria, with convulsions, &c., occurring in any labour later than the first, generally results from fixed granular disease of the kidney, and does not disappear after delivery.

7. Perhaps in puerperal convulsions, &c., produced by albuminuria, the immediate pathological cause of the nervous lesion is some unascertained but poisoned state of the blood. Was there a morbid quantity of urea in the blood? In several specimens of the blood of patients suffering under severe puerperal convulsions, furnished by Dr. S. to Dr. Christison and Dr. Douglas Maclagan, these gentlemen had been unable to detect any traces of urea. Was the poisoning material caseine in morbid quantity or quality? The dependence, shown by Gluge and others, of albuminuria upon stearosis of the kidney, makes this connexion worthy perhaps of some inquiry.

8. In cases of severe puerperal convulsions, &c. from albuminuria, the renal secretion is in general greatly diminished, and Dr. S. had found active diuretics apparently of great use along with or after venesection, antimony, &c., especially where the case was offering to become prolonged.

9. Sometimes hemiplegia supervened during pregnancy without albuminuria, but this form did not seem to interfere materially, or very dangerously, either with the pregnancy or labour—the disease running its own usual course. In one case Dr. S. had seen the patient gradually but imperfectly recover the use of the palsied arm after delivery. In another no improvement occurred.

Monthly Journal of Medical Science, Oct, 1847, p. 124.

183.—*Hint on the Feeding of Children.*—By Dr. J. Reid.—Nurses in general who have the charge of young infants brought up by hand, have an invincible objection to thin food, as the object is to make the child look as fat and hearty as possible, and we have to struggle against this prejudice sometimes in cases even of imminent danger.

In most of these cases we find the alvine dejections to consist of a thick, pasty mass, without a proper admixture of bile, constipation being a frequent accompaniment; and it is not till the secretions become less consistent, and of a better colour, that we observe decided signs of amelioration as to the spasmodic attacks.

The generality of anthors who have written on this subject allude to this state of bowels.

Dr. Underwood mentions, that he has known some of the largest and finest infants he had ever seen, die suddenly *within the month*, immediately after the nurse had boasted of their having taken "three boatfuls of victuals."

There are numerous cases, also, of general convulsions occurring soon after being fed with thick food. In a family in which twelve children were successively subject to this disease, they were all fed by hand, principally owing to the mother having sore nipples.

Lancet, May 8, 1847, *p.* 481.

ADDENDA.

184.—ON A NEW METHOD OF APPLYING COUNTER-IRRITATION.

By Dr. Golding Bird, F.R.S., &c.

[Dr. Bird has proposed a novel method of producing a persistent discharge from the skin by means of galvanism. The making an issue, the insertion of a seton, the application of a moxa or cautery-iron, all appear formidable operations to timid patients. Dr. Bird says:—]

Now I have to offer to the notice of the profession a mode of inducing persistent discharge free from all these objections, in the form of what I beg to call the *electric moxa.* It was long ago observed by Humboldt, and afterwards by Grapengiessier, that when a simple galvanic arc was applied to a blistered surface, the part opposed to the most oxidizable metal was more irritated than that to which the negative plate was applied. In applying such a simple arc to the treatment of paralysis, I was struck with the remarkable effects produced, and such a combination of its results induces me to propose the following ready mode of establishing a discharge from the surface of the body. Order two small blisters, the size of a shilling, to be applied to any part of the body, one a few inches below the other; when the cuticle is thus raised by effused serum, snip it, and apply to the one from whence a permanent discharge is required a piece of zinc foil, and to the other a piece of silver; connect them by a copper wire, and cover them with a common water dressing and oiled silk. If the zinc plate be raised in a few hours, the surface of the skin will look white, as if rubbed over with nitrate of silver. In forty-eight hours a decided eschar will appear, which (still keeping on the plates) will begin to separate at the edges in four or five days. The plates may then be removed, and the surface where the silver was applied will be found to be completely healed. A common poultice may be applied to the part, and a healthy granulating sore, with well-defined edges, freely discharging pus, will be left. During the whole of this process, if the patient complains of pain at all, it will always be referred to the silver plate, where, in fact, the blister is rapidly healing, and not the slightest complaint will be made of the zinc plate, where the slough is as rapidly forming.

As scientific and philosophic physicians, we must inquire into the rationale of this process: after some little investigation, I traced it, as indeed was to be expected, to the principles laid down in my second lecture, when endeavouring to show how small an amount of electric force was sufficient to tear asunder the elements of many compounds.

In fact the saline ingredients of the fluid effused on the surfaces of the blisters are decomposed, the sodium of the common salt being set free at the silver surface, which by oxidation, of course, rapidly becomes soda: the chlorine is evolved at the zinc surface, forming chloride of zinc. An electric current is then traversing from the zinc through the interposed tissues to the silver, and back again to the zinc, and its actual existence may be demonstrated by separating the wires belonging to the plates and connecting them with a galvanometer. I believe, therefore, the sore is really formed by the escharotic action of the chloride of zinc thus produced, and the reason why the patient feels none of the intense pain so characteristic of the caustic energy of the zinc salt, is found in its acting in infinitely small portions at a time upon the skin,—indeed, in what may be correctly enough termed a nascent state.

Medical Gazette, June 4, 1847, *p.* 981.

185.—*On the Comparative Value of Caustics.*—By M. VELPEAU.—Which caustic should be preferred? The chloride of zinc paste, the Vienna paste, or that of frere conea? To the latter there is the danger attached to the poisonous nature of the arsenic of which it is composed; and, although this danger has been exaggerated, still, it nevertheless exists, as owned by M. Manée himself, and in this case the extent of the absorbing surface would still more increase it. Moreover, this paste occasions violent pain and inflammation. The Vienna paste causes an oozing of blood, which causes it to run, and its action is too superficial. That of the chloride of zinc only attacks the fungous tissues, or those deprived of their epidermis; you may hold it twelve months in your hand and feel nothing of it; but, if the epidermis is removed by a blister, the whole hand will be burnt: this is a property not less true than strange. We should, therefore, have been obliged to denude a great portion of the tumour, which would have been a very serious inconvenience; besides this paste occasions the most atrocious suffering during the whole time of its application, notwithstanding its inventor has stated to the contrary.

The black caustic, composed of sulphuric acid and saffron incorporated together so as to form a homogeneous paste appears to me to have an incontestible superiority over all the others. It destroys the whole of the surface with which it comes in contact; occasions no sanguineous oozing even where the skin is ulcerated and fungous; causes but little pain; the tissues attacked dry up, and suppuration commences with the eliminating inflammation. It is true its application is rather difficult, owing to its adhering more to the spatula than to the tissues. As it burns everything, diachylon plaster cannot circumscribe it, and can only be conveniently applied on a horizontal surface; in other situations it would in all probability run. Still these faults, which I am far from wishing to conceal, by no means counterbalance its good qualities. Indeed, I believe the black caustic is better than any other.

Medical Times, July 10, 1847, *p.* 394.

186.—*On a Mode of producing rapid Vesication.*—By G. F. SCHACHT, Esq.—[This is a new application of Mr. Markwick's Impermeable Piline.]

A liniment was prepared according to the following formula:—

℞. Liq. ammon. fortiss. ʒj; ol. olivæ, ʒij. Misce.

Six drops of this liniment were applied to the woollen side of the piline, placed upon the skin, and gently pressed with a handkerchief. In ten minutes a perfect blister was produced, the size of a crown-piece. The piline is not in the least injured by such an experiment, and after being washed, may be used again, for the same or for other purposes.

Pharmaceutical Journal, Feb., 1847, *p.* 376.

187.—*Formula for a very Active Blistering Plaster, less injurious to the Urinary Organs than the common one.*

Take of Cantharides	400 grammes (about ℥xiii.)
Lard	25 grammes
Suet	25 grammes
White resin	50 grammes
Yellow wax	100 grammes
Sulphuric ether ...	100 grammes
Camphor	

Powder the cantharides, pass through a silk sieve until the fine powder amounts to 100 grammes, which put into a wide-mouthed bottle with the ether; put the rest of the cantharides into a tin vessel with the lard, suet, and a sufficiency of water to cover the whole, let it boil moderately for an hour, stirring it constantly; let it then cool and separate the fatty matter at the surface from the dregs at the bottom; melt again, strain through linen, add the resin, wax, and camphor, and mix all well together; then add the cantharides and ether, and apply heat to evaporate the latter, which will occupy an hour; pour it then into a marble mortar and stir it up until quite cold. This plaster, which is a little soft, should be spread in a thin layer on cere cloth, and not on white leather, as is still sometimes done. This blisters very quickly, say in two, two and a half, or three hours at most, according to the susceptibility of the skin to which it is applied, and other circumstances.

Dublin Medical Press, June 2, 1847, *p.* 344.

188.—*Note on the Preparation of Oxide of Silver.*—By Dr. Butler Lane.—[Mr. Underwood having stated that oxide of silver forms an explosive compound when mixed with conserve of roses, or with an essential oil, Dr. Lane has republished the formula which ought to be employed in its production. Made in this way, Dr. Lane states it is perfectly free from any explosive property. He says,]

The formula for preparing the oxide of silver which I recommend is as follows:—Dissolve four parts of the nitrate of silver* in distilled water; also rather more than two parts of the hydrate of potash in a separate quantity, freeing it by filtration from the oxide of iron and other impurities; mix and let stand for an hour, stirring frequently with a glass rod; the supernatant liquid will be found a solution of nitrate of potash, the freedom of which from nitrate of silver may be ascertained by taste, or by testing with hydrochloric acid, showing that complete decomposition has been effected; otherwise more solution of potash should be added; the fluid is then to be poured off, and the precipitated oxide of silver to be washed repeatedly with distilled water until it is found to remain perfectly clear and quite devoid of all taste and alkaline reaction. The precipitated oxide is then to be drained on filtering paper, and thoroughly dried at a temperature of about 150° F. If preferred, the oxide of silver may be prepared *ab initio* from pure metallic silver itself.

Neither lime nor any other alkali will answer the purpose of decomposing the nitrate of silver as well as the potash; and the preparation with ammonia is dangerous in the highest degree, as well as objectionable on other accounts. When the oxide of silver is prepared as I have described, neither heat, friction, nor percussion will occasion any explosion. It may be combined with any vegetable extract or powder without any material decomposition ensuing; nor will it, I believe, be altered in its chemical nature by either starch or sugar. The conjunction of oxide of silver with confection of roses is injudicious, as a salt of silver is liable to be formed, though certainly the tendency of metallic oxides to be acted on by the vegetable acids (gallic, malic, or citric,) varies much. The combination of essential oils with the oxide of silver is exceedingly objectionable, for the chemical union of the oxygen with the silver is not very powerful; neither is that of the hydrogen and carbon in the essential oils; the substance in question, therefore, being intimately commixed, silent or explosive combustion will inevitably ensue, the oxygen and hydrogen forming water, while the silver remains in a metallic state, or is converted into a carburet. An analogous, though more complicated action, I think, takes place where the vegetable acids are concerned. I should not recommend any druggist to dispense a prescription wherein the oxide of silver and an essential oil are conjoined, without communicating with the prescriber, if possible.

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* The grey nitrate should be used, as I do not feel assured that the white variety is always a proto-salt.

The combinations of the oxide of silver which I chiefly employ, and should recommend, are as follow:—

1. With extract of gentian or camomile.
2. With extract of hyoscyamus or conium, to which I often add a small proportion of ipecac.
3. With inspissated ox-gall.
4. With the aqueous extract of opium.
5. With compound cinnamon powder.

The pills should never be rolled or kept in carbonate of magnesia.

Medical Times, June 12, 1847, *p.* 317.

189.—*A pleasant Substitute for Epsom Salts as a Purgative.*—M. Garot recommends the following formula for the preparation of tasteless purgative salts (citrate of magnesia):—

> Carbonate of magnesia 15 parts; citric acid 21 to 22; aromatic syrup 60; water 300.

The citric acid is separately dissolved and added to the carbonate of magnesia diffused in water.

As thus prepared it is not effervescing; but it is easily rendered so by adding only half the quantity of acid, and reserving the addition of the other half, until the dose is taken. The above proportions in grains would constitute a dose.

Dr. Pereira long since suggested the use of citrate of magnesia in nearly similar proportions. He found that one scruple of crystallized citric acid saturated about fourteen grains of light or heavy carbonate of magnesia.

Medical Gazette, July 9, 1847, *p.* 85.

190.—*How to Mask the Bitter Taste of Epsom Salts.*—By M. Combes. —[This gentleman has found that *coffee* possesses the power of covering the nauseous taste of sulphate of magnesia, we are told that—]

The following is his formula for an ordinary dose of about an ounce of the salt.

> Sulphate of magnesia 30 parts; ground coffee 10; water 700 or 800.

Boil them briskly together for two minutes in an untinned vessel. Remove from the fire, and having allowed the mixture to infuse for a few minutes, strain it. Sugar it and drink it hot or cold, according to taste. To ensure the effect, the coffee must be boiled with the salt as directed above; adding the latter to it afterwards or to an infusion does not suffice. If the quantity of the sulphate be much increased, and it is yet desired not to add more coffee than the above, that will suffice if, while the fluid is boiling, a grain or two of tannin be added.—*L'Union Medicale*, No. 95.

Medico-Chirurgical Review, Oct. 1847, *p.* 555.

191.—*How to make Senna pleasant to the Taste.*—The *Bulletin de Therapeutique* signalizes another use of *coffee* in disguising the taste of purgatives for children; MM. Guersant and Blache frequently employing it for this purpose. A weak decoction of coffee is made, to which some milk and sugar are added, care having been taken while boiling the coffee, to put in a *few follicles of senna.* If it is given to the children with a little bread, they will generally take it with avidity. This medicine generally acts freely upon children, and thus administered does not induce the violent griping it sometimes does in the adult. (As a matter of taste, we think the senna tea and prunes of our grandmothers is a more delicious preparation.)

Med. Chirurgical Review, October, 1847, *p.* 556.

192.—*Formula for Frank's Solution of Copaiba.*—*Prep.* 1. Balsam of copaiba two parts, liquor of potassa (P. L.) three parts, water seven parts; boil it for two or three minutes, put it in a separator, and allow it to stand for five or six days, then draw it off from the bottom, avoiding the upper stratum of oil. To the clear liquid add one part of sweet spirits of nitre, perfectly free from acid, to which a few drops of liquor of potassa has been added, until it slightly browns turmeric paper; should it turn foul or milky a *very little* liquor of potassa will usually brighten it; if not, place it in a clean separator, for a few days, and draw it off from the bottom as before, when it will be perfectly brilliant without filtering.

Pharmaceutical Times, Jan. 2, 1847, *p.* 318.

193.—*New Preparation of Quinine.*—Dr. Kingdon introduced a new preparation of quinine which he had lately succeeded in preparing. It is the di-arsenite,—that is, it consists of one part of arsenious acid, and two of quinine; it is a powerful medicine, and one which he has found of great benefit, especially in chronic cutaneous affections, and has no doubt it would be equally beneficial in ague, tic douloreux, and neuralgia. It possesses both the qualities of a mineral and vegetable tonic, and when the system has become habituated to either the one or the other, (which we frequently find the case from long-continued use), by the administration of this medicine you still keep up the former action, while at the same time a new one is introduced into the system. He related a case which demonstrates this very satisfactorily. A young woman who had been affected with lepra six years, was admitted a patient at the Exeter Dispensary, under his care, and was ordered the liq. potassæ arsenitis, with decoct. dulcamaræ, three times a day. For a time the disease appeared to be improving, but it gradually got back to its former state, although the quantity of arsenical solution was increased to the full extent; he then ordered one-third of a grain of diarsenite of quinine to be taken twice a day, and the following week the eruption was much improved, to make use of her own expression, "It was looking quite beautiful." It has been gradually increased to four times a day, and now she is nearly well.

Dr. Kingdon has tried it in several other cutaneous diseases, and with equal success. The preparation is made in the following manner:—He first dissolves 64 grains of arsenious acid, and 32 grains of pearl ashes, or subcarbonate of potash, in four ounces of distilled water, by boiling it for about half an hour, and then makes it up to four ounces with as much water as may be required, so that each drachm may contain two grains of arsenic. He adds five drachms of this solution to two scruples of disulphate of quinine previously dissolved in boiling distilled water; immediately a white curdy precipitate is formed, which is the di-arsenite of quinine; he then pours it on a filter, well washes it, and leaves it on the filter to dry. When the proportions are accurately weighed the water is neutral, and no arsenic can be detected. It is uncrystallizable and insoluble in water, but soluble in alcohol. He gives the one-third of a grain for a dose twice a day, and gradually increases it to three and four times in the course of the day, either made into pills with bread, or in the form of powders mixed with a little sugar or gum; of course nothing acid must be given at the same time, as that would decompose it.

Prov. Med. and Surg. Journal, Aug. **25, 1847,** *p.* **467.**

194.—*Notes on Cooking.*—By BARON LIEBIG.—The following is given by Liebig as the best method of boiling meat.

"If the flesh intended to be eaten be introduced into the boiler when the water is in a state of brisk ebullition, and if the boiling be kept up for some minutes, then so much cold water added as to reduce the temperature of the water to 165° or 158°, and the whole kept at this temperature for some hours, all the conditions are united, which give to the flesh the quality best adapted to its use as food."

If, however, meat is to be boiled for the purpose of making soup, a very different course must be pursued. It should be placed in cold water, which must be *very gradually* brought to the boiling point. In this way there occurs from the commencement of the process an interchange between the juices of the flesh and the external water, which would be altogether impossible according to the directions we have given above for boiling meat, in consequence of the immediate coagulation of the albumen that in that case takes place in the vicinity of the surface, and prevents the penetration of water into the interior of the mass. Liebig proves, experimentally, that boiling water allowed to act for five hours on finely-chopped flesh does not dissolve more than the fifth part of the matters soluble in cold water, even after the albumen has been separated by heating the cold infusion. We cannot refrain from extracting Liebig's prescription for soup.

"When 1lb. of lean beef, free of fat, and separated from the bones, in the finely chopped state in which it is used for beef-sausages or mince-meat, is uniformly mixed with its own weight of cold water, slowly heated to boiling, and the liquid, after boiling briskly for a minute or two, is strained through a towel from the coagulated albumen and the fibrine, now become hard and horny, we obtain an equal weight of the most aromatic soup, of such strength as cannot be obtained, even by boiling for hours, from a piece of flesh. When mixed with salt, and the other usual additions by which soup is usually seasoned, and tinged somewhat darker by means of roasted onions or burnt sugar, it forms the very best soup which can in any way be prepared from 1lb. of flesh."

By the concentration of such a soup on the water-bath, till it ceases to lose water, we obtain a dark brown, soft mass, of which half an ounce suffices to convert 1 lb. of water, with the addition of a little salt, into a strong well-flavoured soup. This is true portable soup, while that of commerce almost invariably consists of mere gelatine.

"Of the true extract nearly 80 per cent. is soluble in alcohol of 85 per cent., while the ordinary tablets of portable soup rarely yield to that menstruum more than 4 or 5 per cent. The presence of kreatine and kreatinine, the latter of which is instantly detected by the addition of chloride of zinc to the alcoholic solution, as well as the nature of the salts left on incineration, which chiefly consist of soluble phosphates, furnish sufficient data for judging of the quality of the true extract of flesh."

Liebig considers this extract of meat as most valuable for ships and fortresses, and in fact in all cases where fresh meat and vegetables are wanting, and the people are supported on salt meat.

Salted meat is not sufficient to preserve the organism in a condition of health, for the brine formed by rubbing the salt into the flesh contains the chief constituents of a concentrated soup or extract, namely, soluble phosphates (especially phosphate of potash), lactic acid, kreatine, and kreatinine. If these substances be not supplied from other quarters, the juices of the flesh cannot be retained in their normal state.

"A change in the quality of the gastric juice, and consequently in that of the products of the digestive process, must be regarded as an inevitable result of the long continued use of salted meat; and if, during digestion, the substances necessary to the transformation of that species of food be taken from other parts of the organism, these parts must lose their normal condition."

Liebig believes that meat acted on by salt containing chlorides of calcium and magnesium would probably be less injurious than when salted in the ordinary manner.

British and Foreign Medical Review, July, 1847, *p.* 271.

195.—*Nitrate of Silver Stains.*—Messrs. Smith have advised a process, already suggested by others, which is remarkable for its simplicity. The stained portion of linen is well saturated with a strong solution of chloride of lime. This converts the silver to a white chloride, which is then removed by ammonia, or by a solution of hyposulphate of soda. If the stain be deep in the fibre and of old standing, this process must be repeated several times before it is effectually removed.—*Pharmaceutical Journal.*

A solution of the cyanide of potassium is also useful in the removal of these stains. The plan of converting them to iodide of silver by tincture of iodine, and washing out the iodide by hyposulphite of soda, is not always successful.

Medical Gazette, Sept. 17, 1847, *p.* 514.

196.—PREVENTION OF INFECTION FROM DISSECTING WOUNDS.

By Wm. Hargrave, Esq., M.B., F.R.C.S I., &c.

The treatment applies to the fingers and the thumb, (the parts most frequently liable to be wounded,) wash them well for a few minutes in cold water; then suck them, immediately after apply a ligature a little above the cardiac side of the wound with such tightness as will induce decided congestion, which will be indicated by the colour of the parts; some blood will also flow from the injured surface, and a certain degree of numbness will follow its application. The ligature is then to be firmly tied and knotted, and allowed to remain on for at least twelve hours; I have kept it on for double that period, and still pursued my professional engagements.

The physiology of such treatment is explained by the ligature causing a permanent stasis in the fluids of the parts injured on its distal side, and producing a well-marked plethora in them, the greater the amount of it the greater will be the impediment to absorption, admitted by all; yet one pathological observation seems to militate against this statement. The constriction caused by the ligature will also oppose a barrier to the return of the venous and lymphatic fluids into the system, consequently to their being circulated through it, so that the poison is prevented entering into the constitution and destroying it, which will then be eliminated locally from the parts where it was first applied; thus suffering and pain will be obviated, and life valuable to all will be preserved.

I have no hesitation in directing the attention of the profession to this simple, and, in my experience, efficacious practice. I would also suggest to those engaged in post-mortem investigations, whether anatomical or pathological, a plan worthy of their adoption preparatory to commencing them,—which is to smear or rub into the hands any bland oil, this supplies an additional coating to the epidermal one, and will act as a means of closing any *very minute* and superficial abrasion which might exist, though the individual is not aware of it. Will it also limit the absorbing powers of the skin?

I strongly incline to the opinion that the adoption of this plan will afford some protection from infection to the profession when engaged in dissections; while I have no doubt that it prevents the persistence of the odour that occasionally remains for some hours upon the hands, though every attention has been paid to cleanliness after such studies.

Dublin Medical Press, June 9, 1847, *p.* 358.

197.—*On the Treatment of Dissection Wounds.*—By Bransby Cooper, Esq.—When you have just reason to believe that you have become infected by a wound from a diseased subject, you will be right to apply caustic to the part for the purpose of destroying the poison, but when you cut your finger under the usual circumstances in dissection I repudiate that plan, and believe it leads to most injurious effects, by increasing the local irritation, and consequently the liability to constitutional disturbance. Wash the wound well in tepid water, put a large poultice on immediately, carry your arm in a sling, gently open your bowels with a small quantity of calomel, James's powder, and rhubarb, followed up with saline draughts, and go at once into the country for a week, and depend on it very few of you will take any harm. How is it that the superintendent of our inspection room, who sews up every body after post-mortem examination, never becomes laid up from abrasions inseparable from his occupation? Were it a poison which produces the mischief, it would be impossible he could escape from its effects, for no condition of health can escape from the inoculation of a virulent poison, as of syphilis, small-pox, vaccine matter, or any virus, if conveyed into the sub-cutaneous cellular tissue.

Medical Gazette, June 25, 1847, *p.* 1106.

198.—*On Precautions to be adopted in Dissecting.*—By T. Cattell, Esq., M.D., Braunston.—[It is advisable to have these constantly before us. Dr. Cattell thus arranges them:—]

I. *Those generally known or ordinarily adopted.*—1. Dr. Duncan has suggested the anointing of the hands with camphorated oil, or with simple axunge, before handling the viscera.

2. The oil, or spirits of turpentine, (commercial,) is frequently used in wounds of this kind. Having once severely suffered from a dissection wound, I took the precaution, ever afterwards, of carrying a small bottle of it in my pocket whenever I visited the dissecting-room, and from the opportunities I had of estimating its value, there is no doubt of its being an efficient prophylactic, if immediately applied.

3. Nitrate of silver. The sudden formation of chloride of silver, whenever the nitrate is brought into contact with abraded parts, may perhaps prevent the absorption of an animal poison; or, by decomposing it, render it inert.

4. Nitric acid, holding in solution a due proportion of camphor, stands recommended by Dr. Copland as very efficient.

5. Spirits of ammonia is sometimes used.

6. A strong solution of alum has been advised by Macartney.

7. Adhesive plaster should be applied to old abrasions.

II. *Others of a more original kind.*—1. The chloride of antimony is a powerful caustic.

2. Chloride of zinc, in a deliquescent or liquid state. From my experience in caustic applications, I am not aware that I could point to one that exerts a more penetrating influence than this does.

Should a case of hydrophobia fall under my care, immediately after the wound had been inflicted by the animal, the first application should be, the deliquescent solution of chloride of zinc.

3. Creasote may be found deserving of trial.

4. Concentrated solution of the chloride of soda, or of lime. A diluted solution of chloride of lime ought always to be on the dissecting table, as well as by the side of the post-mortem examinator, if the motto of prevention be better than cure.

Lastly, I shall refer to the necessity of the use of gloves made of vulcanized caoutchouc, or India-rubber, which should be kept on finger or hand-blocks when not in use.

Lancet, June 19, 1847, *p*. 645.

199.—*On the Treatment of Mortification.*—By SAMUEL COOPER, Esq, F.R.S., Professor of Surgery at University College.—In the *treatment* of mortification, three primary indications are concerned —1. To stop the progress of mortification. 2. To promote the separation of the dead part from the living. 3. To heal the wound, if an operation has been necessary, or otherwise the ulcer resulting from loss of substance. These indications are common to all species of mortification. In fulfilling the first of these—in endeavouring to arrest the progress of mortification, supposing it to be acute-- you will seek to remove the exciting cause.

Where mortification is evidently the result of inflammation— where inflammatory fever and an excited action of the blood-vessels surrounding the mortified part exist—a moderate antiphlogistic treatment is indicated. The excessive action of the sanguiferous system should be cautiously reduced by leeching, purgative, diaphoretic, diluent medicines, and abstinence from animal diet; but this treatment is only to be continued so long as the local inflammation and inflammatory fever exist concurrently with mortification, since by the mortification of any large portion of the body the system itself is greatly shocked, and rendered unable to stand against violent treatment. In such cases too much circumspection cannot be employed, since frequently, immediately upon the subsidence of the inflammatory fever, the patient sinks into a state of prostration and nervous agitation; and in every case there is more or less of weakness, and, if the system has been too much reduced, the consequences are likely to be disastrous.

After the abatement of the inflammatory or symptomatic fever, which usually takes place in the transition from gangrene to sphacelus, the opposite system of treatment must be pursued: stimulants, anodynes, and a more generous diet are to be given.

At one time, bark was regarded by the surgeons of this country as almost a specific in resisting the progress of this disorder: without denying, however, its usefulness in particular cases, this opinion is altogether untenable, and is now rejected by men of experience. So far from being valuable in all cases, its exhibition would frequently be very injurious. After the first stage of mortification, when the inflammation surrounding the mortified part has abated, it will often be advisable to employ it as a tonic, especially if the appetite is bad and the patient low: it should then be administered with wine and light diet. Also, where the constitutional disturbance is of the typhoid kind, bark and quinine may be useful. As stimulants however, ammonia and wines--those of Spain or Madeira—are far preferable. Opium is also very serviceable where severe pain or nervous symptoms are present; the best forms of it are the muriate and acetate of morphia; and they should be given frequently in the day, in order to keep the constitution under their influence during the whole of the twenty-four hours.

Then, what local treatment is to be adopted for stopping the progress of mortification? You may hear of many applications which were resorted to thirty years ago, but which are scarcely at all used at the present day—as, for instance, the fermenting poultice, praised in its day for its supposed antiseptic properties. Surgeons trust now more to common means, such as linseed poultices and fomentations.

The second indication I named was to promote the separation of the slough. The means by which nature accomplishes this is a vital process, not to be explained on either chemical or mechanical principles, but depending on the increased action of the absorbent vessels. Although the slough is dead, and may be cut, pricked, or scratched, without pain, and no functional connection exists, there remains the attachment of cohesion, from which it cannot forcibly be wrested without both pain and danger. As the vital action necessary to the separation of the dead and living parts can only exist in a degree proportioned to the vigour of the whole system, it is necessary that this should be maintained, as well as that local treatment should be resorted to. Where amputation is not strictly indicated, the parts should be left as much as possible to nature, only applying moist and emollient applications. In the derangement and prostration of the system, always implied in mortification, a little violence will bring on an extension of the evil; and therefore, besides the use of the emollient poultice, with or without a solution of chloruret of soda, or with a small proportion of finely-powdered charcoal, it is to a general treatment that we are to look as the most efficient method of expediting the removal of the slough. Let the patient have the benefit of the fresh air; let his linen be frequently changed, and his chamber be well sprinkled with chloride of lime, and his constitution be supported in the manner I have described, and he will then be in the most favourable circumstances for losing the slough. Sometimes you will find one half of the slough healing much better after the other half has been cut away; and, as this proceeding involves no injury of living textures, it is, under some circumstances, advisable to adopt it. I ought to mention that when a slough separates no hæmorrhage generally takes place; the blood-vessels are loaded with coagulum; and this will explain why, when amputation in mortification is performed a little above the line of separation, there is often no hæmorrhage of importance.

The third indication—to heal the ulcer, or wound, if amputation has been necessary—need not to be dwelt on, as it will be considered when we come to speak of the treatment of ulcers, wounds, and amputations.

Medical Times, July 17, 1847, *p.* 409.

200.—*On Chronic Mortification, or Dry Gangrene.*—By S. Cooper, Esq., F.R.S.—[The causes of this state are often diseases of the valves of the heart, ossification of the large arteries, and obstruction of the smaller ones by fibrin. Mr. Cooper observes:]

The first example of chronic mortification, or dry gangrene, is the gangrena senilis, or mortification of old persons. This kind of mortification differs in many respects from any other example; it is peculiar in the discoloration which takes place being always preceded by severe burning sensation in the parts. It commonly occurs in elderly persons—in nineteen cases out of twenty. Not that you may not have similar cases in youth. Dupuytren relates several instances of young persons suffering from this disorder. It commences at the greatest distance from the centre of the circulation, generally on one of the toes, in the form of a dark purple spot at the side of one of the small toes. Previously, however, you find the patient has been suffering pain about the toe, which is often supposed to be gout; and you find that the extension of the disease is preceded by burning sensation. Its progress is variously marked in different cases: you find that the foot is gradually, sometimes quickly, affected as far as the ankle, and has a dark livid colour; the leg higher up presents a reddish-brown colour, and the whole limb has a mottled appearance. When the surgeon examines the part of the leg higher up, he finds the temperature of the limb much lower than natural, and this loss of heat is found to extend along the limb. Dupuytren thought that the temperature of the dead limb fell below that of the surrounding media—that of the atmosphere, and he believed his opinion was confirmed by experiments that he made with the thermometer. Although this is called dry gangrene, in most cases there is a separation of the cuticle, and a dark bloody serum effused into vesicles, as in acute mortification, and at the bottom of the vesicles is seen the cutis, dark coloured and livid. Whether you are to have much swelling depends on the rapidity with which the disease extends: when it advances rapidly there is much swelling, but where the progress is slow the swelling is generally very slight. I have mentioned that the progress is different in different cases: the patient sometimes suffers a great deal of disturbance in the stomach; he suffers from eructations, and delirium and coma come on early in severe cases. Where the disturbance is great in the beginning, the patient often dies before the mortification has reached to the ankle, about the tenth or twelfth day, from constitutional disturbance.

Now, what are the causes of gangrena senilis? It has been generally supposed that there is ossification of arterial trunks, and sometimes we can feel very distinctly that the artery is ossified; but in many of the cases I have seen it has not been so. The larger arteries are not invariably ossified in this disease; sometimes we have obstruction of the arterial trunks; obstruction of the smaller arteries is constantly found, but obstruction of the larger more rarely. Cruveilhier always referred gangrena senilis to ossification. There must be some unfavourable circumstances combined with the ossification, as impaired health, diseases of the heart or its valves, producing disorder of the circulation. Then the venous blood cannot pass freely, and accumulates in the lower extremities, impeding the circulation; and this will explain to you the cause of gangrena senilis. It is doubted by many good surgeons whether ossification of the arteries alone is capable of producing gangrena senilis. I think it is not. No doubt in a broken constitution, joined with ossification, it may act as the exciting cause. Dupuytren thought the cause was arteritis, by which the arteries become blocked up by fibrin. It was observed that the blood was buffy; in consequence of his view, he tried venesection, and three-fourths of his patients were saved. This mode of treatment, when tried in this country, did not give such favourable results. There was one case treated by Gibson, a surgeon, of the United States, that was successful, but unfortunately, very soon after the patient was pronounced out of danger, he died suddenly, so that I do not know whether we have sufficient proof of the correctness of this practice. We found that bark was inefficient in this disease, and that opium was a much more available remedy; and the opinion is retained by the best surgeons, that opium is better than bark in the treatment of gangrena senilis. If opium or its preparations be used, half-grain doses of hydrochlorate of morphia should be given every four hours. There can be no doubt that opium is very useful in gangrena senilis; ammonia also has been used in most of the cases that I have seen; but, I must say, most of the cases I have seen have terminated unfavourably. Musk, too, has been tried, and was found to be a most useful medicine. Stimulants, brandy and wine, ought not to be forgotten. With respect to the local treatment, fomentations and emollient poultices are the most employed. I have seen other applications tried; I have seen Labarruque's solution of chloruret of soda, and this, in one case I attended, had the effect of diminishing the fetid smell, but did no other good. I remember that Sir Astley Cooper tried it, but, according to his experience, it had no other effect than that I have mentioned. Applications of charcoal were also tried, but these were no better than the other. A new practice of late has been introduced; in Chelsea Hospital, where gangrena senilis is very common among the pensioners, it was suggested that it would be a very rational plan to maintain the temperature of the limb by enveloping the whole in carded wool. This was tried in a case by Sir Benjamin Brodie; the patient got better, and recovered with the loss of two toes.

Medical Times, *Aug.* 7, 1847, *p.* 466.

201.—*On Mortification from Pressure—Bedsores.*—By SAMUEL COOPER, Esq., F.R.S.—[This occurs, as is well known, in patients who are reduced to a bad condition by typhoid or scarlet fever, or by long confinement to bed for compound fractures or diseases of the hip joint. Mr. Cooper says:]

When you consider the causes of this kind of mortification you will see the difficulty of curing them, as it not only proceeds from pressure, but also from a low state of the constitution, and hence you may remove the pressure and yet not be able to stop the disease. Still you must endeavour to take away the pressure, and you may employ for this purpose pillows or air-cushions, placed under the patient so as to relieve the prominent parts, or, better still, the hydrostatic bed—Mr. Arnott's water-bed—which acts upon the principle of equalizing the pressure. This water-bed sustains the lower surface of the body at every point, and diminishes the pressure on the prominent parts by affording a very soft surface for the patient to lie on. When long confinement has taken place, you must be on your guard: examine the parts of the skin; see that they are washed well with astringent lotions—the lead lotion, liquor plumbi, and also a preparation of camphor—camphorated spirit. By altering the position of the patient you may sometimes succeed in preventing this mortification. I have often applied the soap plaster—either white or brown—which is a very good application, though not so good as bathing the parts frequently during the day with strong astringent lotion. When sloughing comes on, the modes of treatment are very different amongst different practitioners. Some poultice, some apply camphorated spirit, and some the liquor plumbi lotion; others a strong solution of the chloruret of soda. These are only secondary means in the treatment of this kind of mortification.

Medical Times, Aug. 7, 1847, *p.* 466.

202.—*On the Treatment of Hospital Gangrene.*—By S. COOPER, Esq. F.R.S.—[This disease, Professor Cooper observes, though contagious, originates in a peculiar state of atmosphere and constitution. He says:—]

The question is rife, whether the phagedænic ulceration may not be the same disease as hospital gangrene; it is believed that there is a poisonous principle generated in the atmosphere which produces hospital gangrene, leading the wounds or ulcers to take this form of gangrene; therefore, we can explain the rapid extension of the disease in some hospitals, without supposing that the infection has been conveyed from one patient to another by using the same sponges or dressings; it is from the noxious character of the atmosphere in which the patients lie.

In hospital gangrene you will make use chiefly of external applications. Bark is found to be totally unavailable in hospital gangrene; emetics have been tried, but the reports that have been made of their effects have been very ambiguous. Purgatives in the early stages of disease are more useful—mild purgatives; the citric acid, when the bowels are able to bear it, is also very useful. Opium, too, must not be forgotten, as from the swelling there is often a great deal of pain. Venesection, also, has been tried, and various opinions are entertained of its good effects, as, from the malignity of this disease, gangrene will often attack the puncture itself. In the treatment of hospital gangrene, you must, whenever it is possible, remove the exciting cause; sometimes this is most likely to be accomplished by removing the patient into another ward.

Then, the external treatment, which I said was most efficacious, consists in the employment of strong escharotics. The French surgeons formerly applied the actual cautery, but have since tried a solution of chloride of lime, and speak very highly of it—more so than English surgeons think it deserves. Lisfranc thought that by the use of this remedy the complaint might be considered as conquered. "Now," said he, "hospital gangrene will be a mere trifle. now we have it in our power." The same success, however, has not attended its use in our country, and hospital gangrene is still a formidable disease. We find, however, that very strong escharotics do tend very much to stop the progress of this mortification. The liquor arsenicalis, diluted with an equal quantity of water, is a very valuable remedy. Blackader tried it, and with considerable success. He used to wash the parts with sesquicarbonate of potash, and, after removing as much of the pulpy substance as he could, he dipped lint in the solution and put it on the part, changing the lint every half hour. You might, perhaps, suppose that by applying arsenic to the wound there would be a danger of poisoning the part, but it is found that gangrene produces in the flesh an insusceptibility of injury from poison applied in this manner. An application which is now preferred universally, is that of strong nitric acid. If the sloughs are thick they must be incised before the acid is used: here we see a deviation from the general rule, of leaving sloughs to the operation of nature; but the surgeon is obliged to divide the slough, as the nitric acid would not act from the surface. When the sloughs are removed the skin must be covered with a thick coating of some substance to prevent injury from contact with the nitric acid, which is then applied till the slough becomes of an ash colour, dry, and insensible. At this time opium must be administered, as the patient will often suffer much pain. After the sloughs are removed, granulation begins over the part, which is sometimes attacked again, when you must repeat the treatment with nitric acid. Under the frequent return of these attacks patients will, however, often sink.

Medical Times, August 28, 1847, *p.* 521

203.—*On the Treatment of Hospital Gangrene.*—By CÆSAR HAWKINS, Esq. — [In the general treatment, good diet, opium, and stimulants are required. Let the diet be nourishing, but not solid if the tongue be loaded. Give opium in such doses as to relieve the pain; the quantity required is very variable, even up to two grains every hour or two; if there is much heat of skin, give it as Dover's powder. Give ammonia freely; if the skin is hot and there is much inflammation round the sore, give it as a saline draught, with five grains of sesquicarbonate in excess. As to the administration of wine, be guided by the pulse; it is seldom required at the commencement of the disease, and sometimes may be dispensed with even in the later stages. Regulate the bowels with a rhubarb draught or a colocynth pill. As to local treatment Mr. Hawkins says,—]

With regard to local remedies—if the ulceration be purely phagedenic, or if it be attended with but little sloughing and is painful, soothing applications are the best. A drachm of the extract of conium to a pint of Goulard's lotion is a very good form of lotion, and was used in both of my patients; and if the pain be very severe you may add ♏xvi. of Scheele's prussic acid. The solution of opium is uncertain in its effects, and often aggravates instead of allaying the pain of an ulcer. Sometimes you will find plain water answer better than medicated applications; it may be applied cold if there be much redness around the sore; it had better be used tepid, with oiled silk over it, if the ulcer be weak, and the redness not vivid. If the ulcer have rather more of a sloughy character, stimulants will often rouse the vessels to a healthier action, and so do good; in the same manner as they are serviceable in cases of severe burn. The Peruvian balsam may be used, or the tinctura benzoes c.; and they must be thoroughly applied, so as to come in contact with every part of the ulcerated surface; or the green dressing—unguentum elemi compositum, mixed with balsam of copaiba, may be employed. A stale beer poultice acts in the same manner; it did no good, you may have observed, in Hilditch. Great advantage is sometimes obtained from the chlorine lotion, a drachm of the strong solution to fifteen of water. This, applied over the surface, often stops the disposition to slough, and has the additional advantage of correcting the great fœtor by which the disease is sometimes accompanied. It is when the sore is but moderately sloughy that the charcoal poultice, or one of port wine, may be useful; they are but seldom used now, though often applied formerly.

In the third form, not phagedænic, nor sloughing phagedænic, (the mixed form, that is,) but gangrenous, the gangrene sometimes spreads so rapidly that unless it be stopped at once it may be attended with the greatest danger to the patient. Various applications have been used to destroy the whole surface next to the gangrenous textures, and consolidate the parts underneath the sloughs while they are separating, so that a healthy surface may be exposed when the dead portions come away. The actual cautery has been much used for this purpose, but in this country it is not much used, nor do patients much like it, though it is an effectual remedy sometimes. I do not like the lunar caustic, it does not penetrate sufficiently deep; nor do I like arsenic, which some have employed; it is far too dangerous when applied to a large surface. The strong mineral acids are the best; the nitric or muriatic, for instance. The former is most used, and may be applied by means of a piece of wood, taking care to touch every part of the sore, so that the whole of the living part beneath may be affected by it: watch when the slough separates, lest there be any part left with a disposition to slough remaining; if there be, apply the acid again. None of our patients, I believe, have been bad enough to require this plan of treatment, which is a painful one; nor do I ever use it in sloughing phagedænic sores, but it is invaluable in the gangrenous form of disease.

By one or other of these means you may generally check the disease, and almost always prevent a fatal result. I never saw death occur, I believe, in any case of hospital gangrene; one patient of mine, however, was carried off, soon after the gangrene ceased, in consequence of an attack of erysipelas. In this man there were two parts of the body affected at the same time, and in each there was a different variety of ulceration; he had a phagedænic ulcer in the groin, with a little sloughing, and a rapidly extending gangrenous sore on the leg; the latter I stopped by applying nitric acid, not, however, before it had exposed the bone and destroyed some muscle; the other got well without any such application. This difference is an occurrence you not unfrequently see, and it arises from the parts near the centre of the circulation possessing a greater vitality than those more remote, the latter being, therefore, the worst. When the disease has ceased, the ulcers may be treated in the common way by various applications; diluted nitric acid was used for each of our two patients, and agreed well, so will sometimes solution of caustic, or red wash, or black wash, or whatever else seems appropriate to the condition of the ulcer.

Medical Gazette, June 11, 1847, *p.* 1030.

204.—*On the Treatment of Constitutional Irritation, arising from Injury, or External Diseases.*—By Bransby Cooper, Esq., F.R.S., &c.—[It is quite correct, Mr. Cooper observes, to use topical depletion, sedation and counter-irritation, at the same time as we give opium, bark or stimuli. He remarks further—]

Purgatives and sudorifics are other antiphlogistic means employed to allay constitutional excitement, and, I think, are generally best employed together, the object being to restore all the secretions which the irritative fever has a tendency to suppress, and not to act merely on one particular secretion; for as the skin is dry, the bowels costive, the bile deficient, and the urine less abundant than natural, each of these organs requires the appropriate remedy to increase its natural action, and I know of no better medicine than that which Sir Astley Cooper for years prescribed under these circumstances.—

R. Hydr. chloridi, gr. iij., ; pulv. opii. gr. ss. m. ft. pil. statim sumenda.

R. Magnes. sulphatis, ℥j.: liq. ammon. acetat. ℥j.: liq. antim. tart. ʒj; træ. hyosciami, ʒj; aquæ menthæ virid. ℥vij.; M. capt. cochl. larg. ij. quaque 4ta horâ, donec alvus bene responderit.

This remedy you will rarely find fail in restoring secretions and allaying constitutional irritation. Effervescing draughts will also be frequently found highly beneficial, particularly when there is any tendency to sickness, and antimony in that case should not be employed. Great attention should be paid to dietetic observances, and abstinence from animal food should be strictly enjoined, or, at any rate, nothing beyond weak beef-tea, or broth, should be permitted at the commencement of the excitement, and only under certain circumstances should it ever be allowed. Large quantities of diluents are also useful in maintaining the secretions. When inflammation is attended with symptoms of a typhoid character, general antiphlogistic means are inadmissible, as the patient is liable to become excessively reduced by any copious evacuation; yet, at the same time, it is not to be considered that such patients, however depressed, will bear animal food; for while the skin is hot, the pulse quick, and the secretions suppressed, the bowels must still be gently acted on, and small doses of opium will be found beneficial after they have been sufficiently relieved; but not until the pulse and temperature of the skin have been lowered, can animal food be safely permitted.

Medical Gazette, June 25, 1847, *p.* 1108.

205.—*On the Treatment of Chronic Inflammation.*—By Bransby Cooper, Esq.—[Chronic inflammation generally indicates a scrofulous diathesis, and we must direct our treatment to the constitution, and employ alteratives if any medicines are used; but improved diet, change of air, and removal to the sea side, will often be sufficient. Mr. Cooper observes that—]

In chronic inflammation of joints, glands, and in the formation of indolent tumours, and even those of a specific character, as fungus and scirrhus, which go on increasing insidiously, and almost without pain, too active means prove highly injurious, and small doses of bichloride of mercury, with sarsaparilla, or Plummer's pill with hyosciamus at night, seem to be the best remedies, assisted by generous diet and free air. Our London Hospitals are the worst possible places for such patients to be sent to. Mercury in these cases is not given with the same view as in syphilis, to act specifically, but merely to act gently upon the chylopoietic viscera, and is given in very small doses: and so soon therefore as the secretions are restored, the mercury should be withheld, and iodine prescribed. The formula which I usually order it in is as follows:—

℞. Iodini, gr. ss.; potass. iodidi, ʒss.; syrup. papav. ℥ss.; infus. gent. co. ℥viij. M. capt. cochl. larga ij. bis quotidie, with tepid applications to the chronic swellings, either warm water dressings or the following lotions, if the warmth does not prove agreeable to the patient's feelings.—℞. Ammon. hydrochlor. ʒj.; sp. vini rect., liq. ammon. acetat. aa. ℥ij.; aquæ destillat. ℥iv. M. ft. lotio.

Friction, steaming, and bandaging will, each of them, in certain cases, prove advantageous, as well as a variety of stimulating applications; as, for instance, equal parts of camphor and soap liniments, with a small quantity of tincture of opium often prove of great service.

Medical Gazette, June 25, 1847, *p.* 1108.

206.—ON FATTY DEGENERATION.

By James Paget, Esq., Professor of Anatomy and Surgery to the Royal College of Surgeons, &c.

By atrophy is commonly implied, not the cessation or total privation of the formative process in a part, but its deficiency; and, as I limited hypertrophy to the cases in which an increased power is acquired for a part by the growth, or by the development, of healthy tissue; so shall atrophy be here taken to mean only that process by which a part either simply wastes and is reduced in size, with little or no change of texture, or else, gradually degenerates into a tissue naturally existing in some other part of the body, as the fibro-cellular, or the adipose.

By the terms of this limitation it is implied, that, as there are two kinds of hypertrophy—the one with growth, the other with development,—so there are two kinds of atrophy—the one with simple decrease, the other with degeneration, of tissue. In both these forms, alike, there is a loss of functional power in the part; but in one, this loss is due to the deficient quantity, in the other to deteriorated quality, of the tissue. But as in hypertrophy the development and the growth of the affected part usually concur, so, in atrophy, a part which becomes smaller, usually also degenerates, and one which degenerates, usually becomes smaller. Still, one or other of these, either the decrease or the degeneration, commonly predominates; and we shall see reasons why the distinction is very necessary to be made.

When tissues degenerate in atrophy, the product is most commonly fatty matter, in the form, sometimes, of organised adipose cells, but oftener of oil-drops lying loose in the interstices of the tissue, or in its cells or tubules.

A few tissues, indeed, as the cartilaginous, appear to degenerate into fibro-cellular tissue; such is the process in the fibrous degeneration to which the cartilages are liable, and in which we trace (so far as my observations yet extend) the gradual splitting of the intercellular substance of the cartilage, and the disappearance of its cells. Then, as it splits in finer and finer portions, the finest are gradually transformed into bundles of true cellular tissue, which, however, are of no long continuance, and are rubbed away in the friction of the joints.

Certain morbid structures—as adhesions, the fibrinous deposits in the arteries, fibrous tumors, and the walls of cysts—degenerate with deposits of earthy matter, or calcification. But I am not sure that this occurs in natural structures; and the fatty degeneration is so much more general, that the observations which I shall now offer will relate almost exclusively to it, and to the atrophy by simple decrease or emaciation.

In the first place, it may be necessary that I should shew the reasons for believing that fatty degeneration of a part is always to be regarded as of the nature of an atrophy—as a diminution, rather than as a perversion, of the nutritive process. And I will endeavour to do this in some detail, because, ever since Mr. Bowman discovered the fact that, in fatty degeneration of the liver, the fatty matter is collected within the true secreting cells of that organ, the disease has been constantly acquiring, by the observations of Dr. Johnson and others, more interest and importance, and seems, at length, capable of being described in accordance with general laws.

The reasons, then, for believing that the fatty degeneration of a part is of the nature of an atrophy, are principally these:

First, its frequent coincidence with diminution of size, i.e., emaciation, in a part. In the limbs, the most common form of atrophy from disease is manifested in diminution of size, together with increase in the fatty matter combined with the muscles and bones. Such is the condition displayed by the bones of these lower extremities, and such was the state of the paralysed muscles that were attached to them; such, also, is the condition of the majority of atrophied stumps after amputation, and of many other cases.

Secondly, the fatty degeneration of a part is commonly seen as the consequence of the very causes which in other instances give rise to simple wasting or emaciation of the same part. Thus, when the function of a part is abrogated, from whatever cause, the part may in one person shrink, in another degenerate into fat. The emaciation of a paralysed limb is a familiar object: but here are some of the muscles of such an one, hardly reduced in size, and all transformed into fat. Here is a pancreas, with a cancerous tumor pressing on its duct, and all behind the part obliterated is degenerated into fat; and here another pancreas, the duct of which was obliterated, and is now in part dilated into a large sac; but in this, the part behind the obstruction is simply shrivelled, dry, hard, and scarcely lobulated. Here, also, are bones atrophied in bed-ridden persons; some are exceedingly light, small, and dry: others are not small, but very greasy, full of fatty matter. Either of these results, also, or the two mingled in various proportions, may result from defective supply of blood; as in the cases of atrophy of parts of bones after fractures, as described by Mr. Curling, to which I shall have again to refer. So that from these, and from other cases hereafter to be mentioned, we may say generally, that nearly all the ordinary causes of atrophy may produce, in any part, in one case reduction of size, in another, fatty degeneration.

But, thirdly, by far the most striking evidence of this is to be found in the phenomena of old age. In all real old age—and infirmities speak more plainly of the old age I refer to than do the years a man may have counted,—the formative power is defective:

the power which was dominant over the waste of the body in childhood and youth, and maintained the balance in mature vigorous manhood, now fails—as the tide, after a flood and a period of rest, turns and ebbs down. Thus, atrophy is a uniform concomitant of the infirmities of old age; but the results of senile atrophy are not the same in all: rather, among old people—you might almost thus divide them into two classes—the lean and the fat; and these, as you may see them in any asylum for the aged, personify the two kinds of atrophy I have spoken of.

Some people, as they grow old, seem only to wither and dry up—sharp-featured, shrivelled, spinous old folks, yet withal wiry and tough, clinging to life, and letting death have them, as it were, by small instalments slowly paid. Such are the "lean and slippered pantaloons," and their "shrunk shanks" declare the pervading atrophy.

Others—women more often than men—as old and as ill-nourished as these, yet make a far different appearance, With these the first sign of old age is that they grow fat; and this abides with them, till, it may be, in a last illness sharper than old age, they are robbed even of their fat. These, too, when old age sets in, become pursy, short-winded, pot-bellied, pale and flabby; their skin hangs, not in wrinkles, but in rolls; and their voice, instead of rising "towards childish treble" becomes gruff and husky.

Now, these classes of old people, I repeat, may represent the two forms of atroghy—of that atrophy by disease, and that by degeneration, of tissue—to which we shall find nearly every part of the body liable. In those of the first class you find all the tissues healthy, hardly altered from the time of vigour. I examined the muscles of such an one lately—a woman, 76 years old, very lean, emaciated, and shrivelled. The fibres were rather soft, yet nearly as ruddy and strongly marked as those of a vigorous man; her skin, too, was tough and dry; her bones, slender indeed, yet hard and clean like a skull: her defect was a simple defect of quantity.

But in those that grow fat as they grow old, you find, in all the tissues alike, bulk with imperfect texture; fat laid between, and even within, the muscular fibres, fat about the heart, the kidneys, and all the vessels; and the bones so greasy that no art can clean them: the defect of all these is the defect of quality.

To sum up, then that which concerns this fatty degeneration considered as a form of atrophy—

1. It is very often coincident with the atrophy which manifests itself in decrease of a part.

2. It may ensue as a consequence of any of the ordinary causes or products of atrophy.

3. It is a common form of change in the imperfection of the formative process attendant on the infirmities of old age.

4. It is attended, or preceded, by the imperfection or loss of the elementary organism which we have every necessary ground for regarding as the chief source of formative power in the tissues.

5. It is, itself, a deposit or formation, and a storing up away from

all influence on the system, of a substance which has the characters of an excretion of the lowest order.

On these grounds we may regard fatty degeneration as always an expression of atrophy—of defective, not perverted, formative power. And we may hold this, even though the formation of fat be attended with increase of the bulk or weight of the part; for as the mere growth of a part, though it be great, is not so sure an expression of a strong formative power, as even a little development is, so no increase of size can counterbalance the evidence which a part gives of its degenerateness when its tissue changes to one of lower function.

Most of the parts of the body appear to be subject to this seemingly spontaneous atrophy; and it generally manifests itself in the form of fatty degeneration. Its most frequent seats are the heart and arteries, the bones, the liver, and the kidneys; but it occurs also in the pancreas and the salivary glands, and in the testicles. It may, moreover, occur in morbid products, as in the fibrinous deposits on the interior of arteries, and as I believe in tumours. For Rokitansky alludes to a change which he names Saponification of cancer, as one of the means by which spontaneous cure of the disease may be effected: and in a case, which I lately examined with Dr. Ormerod, some masses of what we entertain no doubt were, or rather had been, firm medullary cancers of the liver, consisted almost entirely of oil-globules, such as are found in fatty degeneration of the natural parts. In a case of cancer of the spleen, also, occurring in connection with hard cancer of the breast, I found many of the large nucleated cancer-cells containing little oil-globules, just like those found in the cells in commencing fatty degeneration of the liver and kidney. And I have since found the same in several other cases of both innocent and malignant tumours.

In conclusion of this subject, it may be proper to state that there appears no necessary, or even frequent, connection between the fatty degeneration of any organ in particular, and that general tendency to the formation of fat which constitutes obesity. No doubt a person who has a natural tendency, even when in health, to become corpulent, would, *cæteris paribus*, be more likely to have fatty degeneration than to have a wasting atrophy in any organ which might fall into the conditions in which these changes originate. And, as a general rule, spirit-drinking, and the excessive use of other hydro-carbonous articles of food, while favouring a general formation of fat, does, also, often give rise to special fatty degeneration in the liver, or some other organ. Yet, on the other hand, one commonly finds the proper elements of all the tissues—the heart, the liver, and the rest—quite healthy in men who are very corpulent. The muscular fibres of the heart, or of the voluntary muscles, may be imbedded in adipose tissue, and yet may be themselves free from the least degeneration. So, also, the hepatic cells may be nearly free from fat within, though there be much oil around them. Fat accumulated in tissue round a part is a very different—probably an essentially different—thing from fat within it; the one is compatible with perfect strength, the other is always a sign of loss of power. In the muscles of some fish—the eel especially—it is hard to get a clear sight of the fibres, the oily matter round them is so abundant: but the fibres are peculiarly strong, and, in their own texture make a striking contrast with the fibres of a degenerate muscle, in which the fat is, in great part, within.

On the whole, therefore, we must conclude that something much more than a general tendency to form fat, or a general excess of fat in the blood, is necessary to produce a local fatty degeneration. The general conditions are favourable, but not essential, to this form of atrophy.

Medical Gazette, July 23, 1847, *p.* 143.

207.—*On the Cause of Symmetrical Diseases.*—By JAMES PAGET, Esq., Professor of Anatomy and Surgery to the College of Surgeons, London.—[In a course of lectures on Nutrition, &c., delivered before the College of Surgeons, Mr. Paget was led to speak of symmetrical diseases, of which he exhibited some singular specimens and diagrams. He attributes these diseases to some morbid change in the blood, of course utterly beyond the reach of chemistry to detect; and makes the following interesting observations:]

Excluding, perhaps, the cases of congenital symmetrical defects, and a few which seem to depend on morbid influence of the nervous system, it may be stated generally that all symmetrical diseases depend on some morbid material in the blood. You may find the proofs of this position in papers written simultaneously by Dr. William Budd and myself in the 25th volume of the Medico-Chirurgical Transactions; and in Dr. Budd's essay you may find it nearly demonstrated, by a masterly discussion of the subject, that in most of these cases the morbid material enters into combination with the tissue which is diseased, or with the organised product of the morbid process. Now the evident truth in all these cases is, that the morbid substance in the blood, whether the mercurial compound, or the organic compound peculiar to rheumatism, or the poison of syphilis, or be it what it may, this substance acts upon and changes only certain portions of what we might otherwise suppose to be all the very same tissue. Such a substance fastens on certain islands on the surface of a bone, or of the skin, and leaves the rest unscathed; and these portions are the exactly corresponding pieces upon opposite sides of the body. The conclusion is unavoidable, that these are the only two pieces that are exactly alike; there was less affinity between the morbid material and the osseous tissue, or the skin, or the cartilage, close by, else it would also have been similarly diseased. But, manifestly, when two substances display different degrees of affinity for a third, their composition cannot be identical; so that though we may speak of all bone and all skin as if it were all alike, yet there are differences; and in all the body the only parts which are exactly like each other are those which are symmetrically placed upon the opposite sides.

No power of artificial chemistry can, indeed, tell the difference; but a morbid material can: it tests out the parts to which it has the greatest affinity, unites with these, and passes by the rest. I say no power of artificial chemistry can detect the difference; perhaps I should have said no power of imagination can conceive either the nature of the difference or the perfection of that adjustment with which amid all the varieties of healthy life, the blood is maintained in perfect adaptation to these differences, and supplies to every part its appropriate material.

I might magnify the wonder of this truth by showing how exceedingly small must be the quantity of the morbid material existing in the blood in some of these cases. But I prefer to illustrate a fact which singularly corroborates the evidence, afforded by symmetrical diseases, of the refinement of the operations of organic affinities. The fact is that of certain diseases,—and I think these are nearly all blood diseases,—having "seats of election." For example, in these two lions' pelves [exhibiting the specimens] not only is the morbid product on each exactly symmetrical, but its arrangement is almost exactly alike in both: hardly a spot appears on one which is not imitated on the other. So in these rheumatic tibiæ and these syphilitic skulls. These, however, are only examples of a large class of cases commonly observed, of which the general character is that the disease is much more likely to affect one certain portion of a bone, or of the skin, or of some other tissue, than to attack any other portion: we are all in the habit of using the fact as an aid in diagnosis.

[There is one circumstance in connexion with changes in the composition of the blood, which, as Mr. Paget remarks, may prove of great pathological and physiological interest. Treviranus says, Mr. P. tells us,]

"That each single part of the body, in respect of its nutrition, stands to the whole body in the relation of an excreted substance." In other words, every part of the body, by taking from the blood the peculiar substances which it needs for its own nutrition, does thereby act as an excretory organ, inasmuch as it removes from the blood that which, if retained in it, would be injurious to the nutrition of the rest of the body. Thus, he says, the polypiferous zoophytes all excrete large quantities of calcareous and siliceous earths. In those which have no stony skeleton these earths are absolutely and utterly excreted; but in those in which they form the skeleton, they are, though retained within the body, yet as truly excreted from the blood and all the other parts, as if they had been thrown out and washed away. So the phosphates which are deposited in our bones are as effectually excreted from the blood and the other tissues, as those which are discharged with the urine.

But Treviranus seems not to have apprehended the full importance of the principle which he thus clearly, though so briefly, stated; for it admits, I think, of far extension and very interesting application.

The influence of the principle may be considered in a large class of outward-growing tissues. The hair, in its constant growth, serves, over and above its local purposes, for the advantage of the whole body, in that, as it grows, it removes from the blood the bisulphide of protein and other constituents of its substance, which are thus excreted from the body. Now this excretion-office appears, in some instances, to be the only one by which the hair serves the purpose of the individual; as, for example, in the fœtus. Thus, in the fœtus of the seal, and, I believe, of most other mammals, removed as they are from all those conditions against which hair protects, a perfect coat of hair is formed within the uterus, and very shortly after birth is shed, and replaced by another coat of wholly different colour, the growth of which had begun within the uterus. Surely, in these cases, it is only as an excretion, or chiefly as such, that this first growth of hair serves to the advantage of the individual. The *lanugo* of the human fœtus is an homologous production, and must, I think, similarly serve in its economy by removing from the blood, as so much excreted matter, the materials of which it is composed.

Now, if this be reasonable, we may carry this principle to the apprehension of the true import of the hair which exists in a kind of rudimental state on the general surface of our bodies, and to that of many other permanently rudimental organs, such as the mammary glands of the male, and others. For these rudimental organs certainly do not serve, in a lower degree, the same purposes as are served by the homologous parts which are completely developed in other species, or in the other sex. To say they are useless, is contrary to all we know of the absolute perfection and all-pervading purposes of Creation; to say they exist merely for the sake of conformity with a general type of structure, is surely unphilosophical, for the law of the unity of organic types is, in larger instances, not observed, except when its observance contributes to the advantage of the individual. No; all these rudimental organs must, as they grow, be as excretions, serving a definite purpose in the economy by removing their appropriate materials from the blood, and leaving it fitter for the nutrition of other parts, or adjusting the balance which might else be disturbed by the formation of some other part. Thus they minister to the self-interest of the individual, while, as if for the sake of wonder, beauty, and perfect order, they are conformed with the great law of the unity of organic types, and concur with the universal plan observed in the construction of organic beings.

Medical Gazette, May 28, 1847, *p.* 936.

208.—*On the Treatment of Pendulous Tumours.*—By Dr. O'Ferrall, St. Vincent's Hospital, Dublin.—[These tumours after remaining stationary for years, often become the seat of morbid action: hence the general rule of practice is to remove them when first presented. The chief point of importance in their removal is a consideration of the proper part of the pedicle at which the division is to be effected. Dr. O'Ferrall observes:]

If the section be made too near the bulb, an unsightly projection will remain after the operation; if it be done too near the other extremity of the pedicle, the integument, on retracting, will leave a wound, and consequently a scar, much larger than could have been anticipated. Allowance, then, must be made for the elongation of the pedicle by the weight of the bulb, and for the contraction of the stalk, which always follows its division,—the same process which renders it unnecessary to tie the neck of an uterine polypus close to the mucous surface from which it has grown. The best mode of proceeding is, to poise the tumour on the hand, and allow the surrounding skin to retract and recover its pristine position, and then to make the section of the pedicle a little below its origin. Should the nutritious artery be large enough to deserve attention, the jet of blood may be prevented by previously including the neck of the tumour in a provisional ligature, and, when the section is accomplished, tying the divided artery. The provisional ligature may then be removed altogether. A slight touch of the nitrate of silver, just sufficient to produce a delicate white coating, will not only shorten the duration of the subsequent smarting, but lessen the probability of any reaction, especially of an unhealthy kind. It has appeared to me, that whatever seals up the cellular tissue, or the orifices of divided vessels of every denomination, diminishes the tendency to diffuse or troublesome inflammation. Simple water dressing will then complete the local treatment.

In operating on the adipose pendulous tumour, the extent of interference with the pedicle will be regulated by the presence or absence of fatty matter in its substance. If the growth extend through the neck into the subcutaneous cellular membrane beyond it, such an incision must be made as will allow of its complete extraction. In such a case, the small cavity then left should be filled with lint dipped in olive oil, and the integument brought gently over it, to prevent an unnecessarily large cicatrix. The lint is withdrawn when suppuration is established, and the integuments brought together by adhesive plaster.

The proceeding in the case of pendulous nævus is somewhat different, and must be adapted to the peculiar circumstances of the case. It is not usual for the pedicle, in such instances, to be entirely free from all traces of erectile tissue. Should the pedicle be implicated, or should the vessels of the cellular or dermoid tissues beyond it be hypertrophied, a simple section would be inadequate to the cure; hæmorrhage of a troublesome nature would be the immediate result, and reproduction of the disease the more remote consequence of such an imperfect procedure. The diseased part must be included in an elliptical incision, and thus freely and completely removed. In a case of pendulous nævus of the shoulder, the disposition to vascular hypertrophy was so strong, that, although the tumour was removed with an ellipsis of the surrounding skin, the cicatrix became afterwards enlarged and vascular, assuming the form of keloid tumour. It may happen that the erectile formation may extend irregularly, for a considerable distance, beyond the origin of the pedicle. In such cases, the amputation of the pedicle alone would entail the consequences already alluded to, while the excision of the whole of the morbid structure might be forbidden by its extent, or by the importance of the parts in which it is found. The following is the mode I would recommend under such circumstances, and when the removal of the pendulous tumour is desired on account of the inconvenience it occasions. The tumour being held horizontally and on the stretch, the point of the style or nail cautery, described by Dr. Wilmot, should be passed through the cervix in several places, so as to ensure the obliteration of the vessels contained in that place. The whole cervix may be traversed by these punctures at one or several successive operations, according to its breadth. When the vascular character of the cervix is thus changed, its section may be performed, without risk of hæmorrhage. A series of seton threads would accomplish this object, but in a manner much more tedious and painful to the patient. The mode of obliteration of erectile tissue employed by Dr. Wilmot is, I know, a great improvement on the previous practice in such cases. Its adaptation to pendulous tumours previous to their section, will, I trust, be found available, and I would venture to recommend it.

When a pendulous tumour is known, or suspected to be malignant, great care must be taken to remove the entire of the morbid parts. If, as in the case described, the heterologous structure be confined to the bulb of the tumour, and the pedicle or surrounding skin be healthy, there can be no reason for doing more than simple section of the former; but the section should not, for obvious reasons, be made too near the bulb. But should the neck of the tumour be thickened, hardened, or irregular, a free elliptical incision should be made in the integument beyond it, and all suspicious parts satisfactorily removed.

Dublin Quarterly Journal, Nov., 1847, *p.* 345.

209. – *On the Structural Relation of Oil and Albumen in the Animal Economy.*—[Nitrogenized principles of food supply the albumen, and non-nitrogenized principles the fat, which are both so important in the economy. The fat or oil is not merely a material for combustion, but enters also, as well as the albumen, into the composition of the elementary cell. These two principles have a peculiar action on each other, as Dr. Bennett tells us,—]

The production of oil and albumen, as has lately been illustrated by Dr. Alison, is so far a vital process, that these principles can only be formed in organized bodies. Once produced, however, they exert a peculiar physical action on each other. In a paper read to the French Academy of Sciences in 1838, Dr. Ascherson, of Berlin, pointed out, that the moment oil is brought into contact with albumen, the latter coagulates and forms a membrane. A drop of oil consequently cannot for a moment be surrounded with an albuminous fluid, without its being enclosed in a vesicular membrane or cell. This fact may be easily demonstrated in the following manner:—If we place a drop of oil and another of albumen on a slip of glass, and allow one to flow over the other, a pellicle will be observed to have formed. This examined microscopically, presents the appearance of a membrane, sometimes puckered and thrown into elegant folds. The formation of this membrane may be watched, and may be observed to arise where the two fluids come into contact, by the formation of exceedingly minute molecules, which rapidly become more numerous, approach each other and unite, forming a continuous surface, which at first is slightly granular, afterwards becomes smooth, and then acquires firmness, so that it may be mechanically broken up or thrown into folds. If now we unite the two globules by means of friction, we form an emulsion. If this be done dexterously, and the two substances are in proper proportions, the compound exactly resembles milk to the naked eye, and, when examined under high magnifying powers, is found, like milk, to consist of minute globules floating in a transparent fluid. The membrane formerly seen has entirely disappeared, no debris or traces of its existence remain. Facts, to which I shall immediately allude, render it certain that the membrane is so broken up as to constitute a layer or envelope to the minute drops of oil, which in this way are transformed into cells composed of an albuminous wall and oily contents.

[The milk globules themselves consist of oil, with an albuminous envelope. Dr. Bennett proceeds to say,]

I have made numerous experiments with oil and other glutinous substances, such as gelatine, gum, and syrup. I have found that any viscous substance, as well as the caustic alkalies, will enable us to separate mechanically portions of oil into minute drops or molecules. In none of these cases, however, could I produce a membrane as when oil and albumen are brought in contact; and that the molecules so produced are not surrounded by a distinct membrane, is presumable from the readiness with which, in many instances, they unite together, either spontaneously or under pressure. Again, when a membrane is formed by chemical precipitation (*membrano-molecular* structure of Harting) it differs from the Haptogen membrane of Ascherson, in the circumstance that friction resolves it into minute molecules of inorganic matter, and never into a cell structure, as when oil and albumen are rubbed together. Neither, according to the observation of Mulder, does the former possess the property of endosmosis and exosmosis, which the latter undoubtedly does.

From all these facts I think it may be concluded, that the globules of milk, as well as those formed mechanically by the union of oil and albumen, are structures composed of an albuminous envelope and oily contents, and that they are endowed, from the moment of their formation, with the physical property of endosmosis and exosmosis. This property is defined by Dutrochet in the following manner:—“Two heterogeneous and miscible liquids being separated by a membranous layer, there is established through the capillary conduits of this layer two currents, directed inversely, and of unequal intensity." Dutrochet, in his latest work on the subject, distinctly tells us to attach no importance to the etymological acceptation of endosmosis and exosmosis; and that by the first he understands only the strong, and by the second the feeble currents, which pass in contrary directions through a permeable membrane. He exhibited by numerous experiments, that this phenomenon was influenced by the nature of the membranous layer, and by numerous circumstances too well known for me to describe them at length. Suffice it to say, that the structures I have alluded to, formed by the mechanical union of oil and albumen, may be seen to exhibit the peculiar phenomenon which he discovered.

When it is remembered that oil and albumen pervade all organized bodies, that they are continually coming in contact, and that membranes and cells must thereby be necessarily produced; moreover, as the other soluble elements which enter into organized structures must communicate to the fluids various kinds of densities, it will be clear that all the physical conditions necessary for endosmosis and exosmosis must be present. When, in addition, it is considered that modern anatomy and physiology have demonstrated that all organized structures originally consist of cells, composed, in like manner, of a membranous envelope, and endowed with the same physical properties, the importance of these facts must be recognised.

I consider, therefore, that the blastema containing the necessary nutritive principles in solution, precipitates minute oily particles, which are the elementary granules of histologists. These, either separately or united, constitute nuclei composed of oil, surrounded by an albuminous membrane. In this condition, they become subject to the physical law of endosmosis and exosmosis, and absorb or exude materials, according to the circumstances in which they are placed, and the unknown vital power to which they are subjected. The different isolated corpuscles are not formed from them directly, as Ascherson supposed, but are the result of a series of physical and vital changes occurring in the elementary granules and nuclei, which, however, are themselves produced in the manner he pointed out.

[The process by which organic matter introduced into the economy becomes assimilated into vital tissue, is one of those mysteries which will probably remain unsolved. The following, Dr. Bennett tells us, are steps in the process.]

1st. Introduction into the stomach and alimentary canal of organic matter.

2d. Its transformation by the process of digestion into albuminous and oily compounds. This process is chiefly chemical.

3d. The imbibition of these through the mucous membrane in a fluid state; and their union in the termini of the villi and lacteals to form elementary granules and nuclei. This process is physical.

4th. The transformation of these into blood, which is a vital process.

The blood is a fluid so compound in its nature, that it becomes impossible to follow the changes which the matter absorbed from the food undergoes. It contains not only the results of digestion in the alimentary canal, but the products of the secondary digestion, or disintegration going on in the tissues, and whether one or the other, or both, are essential to its functions, is unknown. It further undergoes important changes in the act of respiration. The moment we recognise the matters exuded from it, however, to form the structures, the same order of facts is to be seen, viz.—

1st. Exudation of liquor sanguinis, containing oil and albumen in solution.

2d. The mechanical union of these to form elementary granules and nuclei—and

3d. The vital transformation of these into the various tissues of the economy.

All the facts with which we are acquainted, derived from the study of dietetics, chemistry, anatomical structure, physiological experiment, and the laws of development, prove that the relation shown to exist between oil and albumen, and the physical laws described as resulting from it, are in continual operation. This is still further supported by the discoveries daily making in pathology, which point out various conditions of the animal economy, in which the healthy relations of the oily and albuminous principles are more or less deranged.

Some individuals are characterised by a tendency to obesity, others by excessive leanness. Such persons may live upon the same diet, and yet in the one case there may be large accumulations of fat, whereas in the other no such effect is produced. Such differences must evidently depend upon the variety of the assimilating process, that is, upon vital action, the laws governing which have hitherto escaped our observation. Still, as this vital action cannot operate without previously existing physical causes, a regulation of these, by management of the diet and exercise, will enable us to diminish or increase the oily and albuminous elements in the animal economy.

It has been long known, that under certain circumstances different tissues become loaded with, or even transformed into fat. The conditions which seem necessary for this result are a certain degree of inactivity of the structure, whilst the elements necessary for the formation of fat continually enter the animal frame in the food. The liver of geese is rendered fatty at Strasbourg, by confining the animal and feeding it highly. By this process respiration is impeded, and the fat formed, instead of being burnt in the lungs, (according to the language of chemists), is stored up in the tissues, and especially in the liver. In man we occasionally find the same degeneration of the liver in drunkards, that is, where fluids abounding in carbon, the essential element of oils, are continually drank. It is also found in consumptive people, that is, when the function of the lungs is for some time impeded, and especially in those who have been well fed and use little exercise. The oil so formed, was shown by Mr. Bowman to accumulate within the hepatic cells.

There is a certain disease of the kidney, which the recent researches of Professor Gluge of Brussels have shown to be associated with a fatty degeneration of the organ, and which he has called stearosis; the oily particles in this case, as in that of the liver, accumulate within the cells of the organ.

There are certain disorders of parenchymatous tissues, known to pathologists under the name of inflammatory softening, or ramollissement. This alteration in structure may be found, on examination, to consist of an accumulation of minute oily granules, sometimes collected together in masses, at others surrounded by a distinct cell wall. These bodies, called by some compound granular, and by others exudation corpuscles, are evidence of local fatty collections.

The muscles themselves are often converted into fat, caused by the accumulation of this principle between the fibrillæ. The transverse and longitudinal striæ may be seen to be ultimately obliterated, and the whole converted into a mass of fatty granules. Fat cells also accumulate between the fasciculi. This kind of degeneration occurs in voluntary muscles, when from injury to the spinal cord, or disease of the joints, their motions are prevented, whilst the general nourishment of the individual proceeds.

Other kinds of fatty collections are known by the terms lipoma, atheroma, cholesteotoma, steatoma, and meliceris. These constitute various forms of tumour, either lobulated or encysted, and are either excessive local growths of adipose tissue, or an accumulation of oily granules within the structure of glands. Encephaloma, also, is a morbid growth often very rich in fat.

In the same manner as we have morbid conditions dependent on an excess of the oily principle, so we have others resulting from an increase in the albuminous.

Thus many tissues are converted into a dense albuminous or fibrous mass, known by the names of cicatrices, indurations, strictures, and fibrous, cartilaginous, and scirrhous tumours.

The whole range of morbid lesions denominated tubercular belongs also to this class, Tubercle is a product varying much in constitution, but most frequently composed of an amorphous molecular matter, little altered by the addition of ether, and rendered more transparent by acetic acid.

In all these cases there is an excess of the albuminous and deficiency of the oily principles.

The great emunctory of fat, as a fatty compound, is by the liver in the form of bile. The great emunctory of albumen is by the kidney in the form of urea. There is a considerable analogy between the lesions produced in these two organs by the excess or diminution of oil and albumen, and by the concretions there occasioned.

Thus, in the liver, the albuminous or fibrous tissue may be increased, and cause atrophy of the cellular or fatty structure, as in cirrhosis; or the cellular structure may be greatly increased, causing enlargement of the organ, as in the fatty degeneration. The same thing occurs in the kidney, which may become enlarged and fatty from the accumulation of oil within its cells, or contracted and atrophied from an increase of the albuminous material. Again, the oily excretion of the liver may produce a crystallized matter called cholesterine, which accumulates in the bile ducts, forming calculi, and causing obstructive diseases. The nitrogenized excretion of the kidney, urea, likewise gives rise to a crystalline compound, uric acid, which also forms calculi, and brings on obstructive diseases.

When injuries or disorders attack the body suddenly, the individual having been previously in good health, certain lesions are produced which are denominated inflammatory, which are distinguished by the formation of corpuscles containing granules, nuclei, and cell walls, composed of oil and albumen in certain proportions. These corpuscles vary infinitely in exuberance of growth and power of reproduction. This also may depend upon the relative amount of oil and albumen entering into the blastema or structure of such growth. Healthy inflammatory products may be considered as the type of such formations, which we observe to diminish in organizable power as they abound in pure albumen, or become tubercular. On the other hand, they assume an excessive growth and power of reproduction as they abound in the oily element, as one observes in cerebriform or soft cancer. This view is favoured by the circumstance, that we scarcely ever find tubercle and cancer associated, and observe that tubercle attacks in preference organs destitute of fat, such as the lungs, while it is rare in fatty organs such as the brain and liver. On the other hand, cancer attacks in preference fatty organs, such as the mamma and liver, and is exceedingly rare in the lungs and fibrous tissues. Again, tubercle is common in the young, in whom assimilation does not produce an excess of fat; whereas cancer is most frequent in advanced life, where obesity and fatty accumulations are especially apt to occur.

In this manner we observe that an excess and diminution of the oily or albuminous principles are unfavourable to a healthy organization, and that a proper nutrition depends upon a certain relation existing between them. The exact amount of this relation, or the range which may exist within the limits of health, are not yet ascertained; observation, however, shows that there are certain derangements of the economy, which depend upon an excess or diminution of one or the other, and that these possess distinctive characters.

Although many of the diseased actions now alluded to, have long been known to pathologists, it has not yet been recognized, nor in many of them indeed has it been known, that they depend upon an altered relation between the oily and albuminous constituents of the body. If the opinions now advanced be correct, their importance in regulating the diet of animals, and in a system of therapeutics, must become evident. The facts and details connected with this part of the subject, indeed, are not only interesting in their practical application to the treatment of the disease, but afford further confirmation of the correctness of the theory advanced.

Monthly Journal, Sept., 1847, *p.* 166.

210.—*On Pyrosis.*—By Dr. G. C. Child, Physician to the Westminster General Dispensary, &c.—The mineral acids, being astringent tonics, are especially suited to relieve obstinate pyrosis in feeble individuals. Sometimes the sulphuric, sometimes the nitro-muriatic acid succeeds best; nor can the one best adapted for each particular case be always determined beforehand. If there be much debility, however, the former should be first tried, and the latter if bilious disorder be conjoined with indigestion. It is perfectly consistent practice to prescribe regular doses of acids and occasional doses of alkalies for the same patient, each medicine fulfilling a separate purpose. Alkalies are merely palliative, and relieve only when the irritating fluid that has been poured out is of an acid nature; on the other hand, the mineral acids strike at the root of the pyrosis, and produce a radical cure by checking the secretion of the fluid itself, in consequence of their tonic and astringent effects upon the vessels of the mucous membrane. The mineral acids, therefore, should be given, like other tonics, when the stomach is empty; while alkalies are of little use unless administered towards the end of digestion, at the moment when the acid fluids are irritating the gastric nerves. If taken with care in this manner, the one does not interfere with the action of the other. When pyrosis is obstinate, counter-irritation to the epigastrium, as by means of a blister, is often highly useful: it operates by relieving congestion of the mucous membrane, and imparting tone to the secreting vessels.

Medicines can palliate, even in the worst cases; but, in order to effect a lasting cure, careful rules of diet must be enforced. In particular, fat, fried, or cured meat, pastry, nuts, cucumbers, pickles, and malt liquors, are to be eschewed. Moreover, all articles of food which, although generally wholesome and digestible, are yet found by patients to "turn to acid or water, or to ferment," as they express it, are to be avoided. Among the things in common use most apt to excite pyrosis, may be mentioned oatmeal, potatoes, fish, and tea. As a general rule, a vegetable diet is more *acid-producing* than one chiefly composed of the easily digested kinds of animal foods: hence many patients remark that they are more troubled with acidity when they live on slops—farinaceous articles—than when they make use of a full meat diet. When bilious pyrosis occurs the first thing in the morning, it is often prevented by taking a little food before getting out of bed. Many patients find that exercise or constrained postures are sure to bring on an attack: hence clerks are extremely apt to suffer therefrom when closely confined to the desk.

Medical Gazette, May 7, 1847, *p.* 815.

211.—*On the Use of Matico.*—By Dr. RUSCHENBERGER, Surgeon, U.S. N.—As a remedy for gonorrhœa, I do not think it is equal to cubebs. I made an experiment with it to test its virtues as a styptic. In enlarging a burrowing bubo, I divided the arteria ad cutem abdominis, which bled freely. I directed that an attempt should be made to arrest the hemorrhage by lint and pressure. After a trial of ten minutes, which totally failed, I directed moistened matico leaves to be applied. The assistant reported in a few minutes that the matico exerted no influence, and proposed to secure the bleeding vessel by ligature. I now visited the patient, who had lost six or eight ounces of blood, and was still bleeding. After coarsely powdering some matico leaves in the palm of my hand, I formed the mass into a paste with cold water; I then removed the clot, through which the arterial blood formed a passage of the size of a crow-quill; the blood flowed per saltem, forming a jet of at least three fourths of an inch high. The paste was applied lightly with the fingers, and filled the wound. The surrounding skin was immediately sponged clean; the hemorrhage ceased instantly, and not a single drop of blood flowed afterwards. No pressure was used, or dressing applied.

In the first application the entire matico leaf had been simply dipped in water and then applied. It failed, as already stated.

A cupper and leecher in Brooklyn informs me, that he finds the matico, applied as I have described above, to instantly arrest the bleeding of leech-bites in children, which, before he obtained matico, frequently caused him great anxiety. He expressed himself as perfectly satisfied, that there cannot be any difficulty in arresting hemorrhage from leech-bites, where matico can be obtained.

I exhibited drachm doses of finely powdered matico in a case of profuse menorrhagia, repeated every two hours. The flow ceased after the third dose. The powder was simply mixed in about two ounces of water. The patient experienced no unpleasant effects from its use.

The plant is very generally used in Lima, and along the coast in cases of hemorrhage, and all kind of ulcers. The leaves are well pounded and then applied to the wound; the vessels contract, and the hemorrhage at once ceases. An infusion of the plant is used as a wash for ulcers; and after washing, a small quantity of the powder is applied. It does not appear that matico has ever been employed in Lima as an internal remedy.

There is sufficient evidence in favour of matico to render its properties and medical qualities worthy of careful examination; I say careful examination, because we may be deceived by the results of a few observations and experiments, and be led to believe what is far from truth. We are too apt to arrive at conclusions without sufficient data; too apt to forget the proverb, "One swallow don't make summer," and hence come many of those facts which are known as *false.*

It is possible that all the medicinal qualities of the matico may be found to exist in its essential oil, which is heavier than a saturated solution of common salt. I am about causing some trials to be made with the article, which I have procured by the ordinary method of distillation.

Medical Examiner, (U.S.) *July*, 1846, *p.* 401.

212.—*On the Diagnosis of Cancerous Growths in the Living Subject.* —By Dr. J. H. Bennett.—[Lancinating pains, unequal surface, and the other local and general symptoms usually ascribed to cancer, are not sufficient for the purpose of diagnosis. As Dr. Bennett says,—]

All these symptoms have, at various times, been proved to be connected with epidermic, fibrous, fatty, or cystic growths. In the living subject it is clear that the anatomical arrangement of the fibrous and cellular elements, observed in morbid specimens, can seldom be seen. We have no opportunity of obtaining a section. Still there are certain places where the detection of such cells as have been described, exhibiting their peculiar change under the action of acetic acid, will enable us to diagnose a malignant growth with certainty. Over most of the surface generally, for instance, where the diagnosis most concerns the surgeon, a group of such cells cannot leave us in doubt, because the epidermic scales in such cases never resemble them, as they do in internal organs, as the bladder, stomach, or brain. Thus, although anatomically, and in all cases, we cannot depend upon the form or even structure of the cell, as connected with the epidermis alone we can. Hence, to the surgeon, a minute examination is a more precious means of diagnosis than to the physician. Various ulcerated and fungoid tumours of the surface may be diagnosed with certainty, from an examination of the cells alone, whilst in fluids discharged from the stomach, bowels, or bladder, this means of diagnosis is not so certain. Many instances are now on record, where in doubtful cases such an examination has determined the nature of the growth. Several have been lately published by M. Sedillot of Strasburgh, and others may be found in the works of Lebert and Vogel. There can be no doubt that many tumours and ulcerations exist which, to the naked eye, and according to the ordinary symptoms, resemble cancer, although they are perfectly innocent. To all such growths Lebert has given the name of cancroid. Among them may be placed many so called cancers of the lip, which, on examination, are often found to be fibro-epidermic; many tumours of the breast which are either fibrous, fibro-epidermic, or cystosarcomatous; fungoid swellings of the dura mater; the ordinary fungus of the testicle, which Messrs. Goodsir and Syme have shewn to consist of healthy granulations; and probably the so-called chimney-sweep's cancer of the scrotum.

Medical Gazette, May 7, 1847, *p.* 831.

213.—*On Encysted Growths.*—By Dr. J. H. Bennett, Edinburgh. —[Encysted growths arise from obstruction of the crypts and follicles of the skin and mucous membrane, and of the excretory ducts of various organs. Dr. Bennett says of them:]

Encysted growths are composed of a cyst or membranous envelope, enclosing various kinds of contents. They differ greatly in size, situation, and structure, which renders their arrangement somewhat difficult. By some they have been divided into *simple* and *compound*, according as the tumour is formed of one cyst, or is composed of several. By others they have been arranged according to the nature of their contents into *hygromatous*, or aqueous; *atheromatous*, resembling gruel; *melicerous*, honey-like, and *steatomatous*, or fatty encysted growths. The latter mode of division is very faulty, the atheromatous, melicerous, and steatomatous varieties being all more or less fatty, whilst some kinds of compound encysted tumours contain different contents in different cysts.

An acquaintance with the structure and mode of development of these growths must convince us that there are only two modes of *treatment* applicable—namely, 1st, entire extirpation, and 2nd, destruction of the secreting surface in their interior. The idea that a dense fibrous envelope, often containing numerous secondary cysts, all richly furnished with blood-vessels can be absorbed through the agency of mercury, iodine, or any other drug, must be purely imaginary. Neither can it be supposed, that as long as any of the cysts remain intact, a cure can be hoped for. But we have seen that the natural course of these secondary cysts is to open into each other, until at length only one large cyst remains. Under such circumstances a rupture, by exciting adhesive exudation, and thus destroying the secreting surfaces, or inducing adhesions between them, may cause a radical cure. It is in this manner that the occasional spontaneous removal of certain ovarian cysts are to be explained. In one such case, we had an opportunity of examining, under the care of Dr. Makellar, the walls of the compound cyst were found after death shrunk, and thickened, and the whole growth in process of obliteration.

Monthly Journal, June, 1847, *p*. 898.

214.—*On the Best Means of Opening Certain Abscesses.*—By Dr. Hargrave.—Dr. Hargrave criticises the ordinary practice of opening abscess in the groin by an incision parallel to Poupart's ligament. He states that in this case the lips of the wound are never at rest, being continually displaced by the movements of the abdomen and by the motions of the thigh, which movements cannot be entirely prevented by the best adjusted bandages. These unpleasant results can, he observes, be always obviated by opening the abscess by an incision at right angles to Poupart's ligament. By this practice the abscess is fully evacuated, the lips of the wound assume an oval figure, they remain in repose, not being affected by the abdominal movements, and when the incision heals, the mark is scarcely apparent.

There are certain deep seated abscesses, occasionally met with in localities rendered dangerous by the proximity of large vessels, such as the calf of the leg, the sole of the foot, and the neck. Dr. Hargrave asks when the abscess is in the calf of the leg, at a considerable distance from the surface, between the thick superficial, and deep layer of muscles, and in the vicinity of the popliteal space, are we to cut boldly down to the matter, as is advised by some surgeons? Dr. Hargrave thinks not, but recommends instead, that a careful examination be made along the external and internal part of the leg; and if the abscess points externally, to make the incision parallel and posterior to the fibula, which will allow of the separation of the muscles, and puncture of the abscess without risk.

In opening abscess in the sole of the foot, in which the matter has a tendency to pass through the metatarsal spaces, and to point on the dorsum of the foot, he advises that the pus be evacuated, not by a direct puncture through the sole of the foot, but by incising along the outer edges of the foot, near the fifth metatarsal bone, when, by dividing the subjacent tissues, the very centre of the sole of the foot may be reached without danger of wounding any important part.—*Dublin Medical Press, June* 2, 1847.

Provincial Med. and Surg. Journal, Sept. 8, 1847, *p.* 501.

215.—*Economy in Leeches.*—From the scarcity and consequent high price of leeches, various methods have been adopted to disgorge them after using, in order to employ them again; but most of the methods hitherto in use have been fatal to the leeches, or have rendered them, in a great measure, inefficient. At the Hotel Dieu, Paris, a man is charged to procure leeches for the male side of the house, a woman for the female; and every care is taken to have them good. The leeches are sent up in small covered earthen pots, covered by perforated linen, and after use they are returned into these pots, and taken to the surgery. This matter being attended to prevents the animals being lost or put into vessels containing anything injurious. In the afternoon of the day after being used, a dozen leeches at a time are thrown into salt water, containing sixteen parts of salt to one hundred of water. They are removed one by one, being seized by their posterior extremity, and plunged into water which feels very warm to the hand. The leech is then gently pressed between the fingers, and readily disgorges all the blood it contains. After being thus emptied, the leeches are placed in a vessel of fresh water, which is renewed once in twenty-four hours. At the end of eight or ten days they may be used again, and will take as quickly as fresh leeches. The process of disgorging is again practised, and if they are in good condition they may be used a third time; but if not, they are taken to the marshes, and placed in a reservoir built for the purpose. The reservoir or basin is made of brickwork, lined throughout with Roman cement, and filled with water carefully freed from all alkalinity; for alkaline substances seem of all most fatal to them. The bottom is covered over with mud, and many water plants are grown in it. The leeches bury themselves in this earth at the bottom, and remain till their healthy condition is quite restored. A gentle and continuous current of water passes through the reservoir. When they wish to take leeches from it, they agitate the water, when the healthy ones rise to the surface, whilst the feebler ones remain at the bottom in the mud. Thus the hospital is constantly supplied with leeches, which fulfil every indication, and all this is at a very trifling expense, and, consequently, a large sum of money is annually saved. The plan, has been adopted by some other of the Parisian hospitals.

Lancet, Sept. 11, 1847, *p.* 294.

216.—*Observations on Stammering.*—By Dr. Marshall Hall.—[This subject, from its nature, is entirely out of the reach of any but the anatomist, the physiologist, and the psychologist; and is certainly worthy of being investigated by the scientific practitioner. Dr. Hall, in a discussion at the Medical Society, remarked that,]

Stammering was the alteration or interruption of the acts combined in the function of articulation—first and chiefly, by emotion; and secondly, by excited reflex action. It was an affection of the organs of speech, not, as a distinguished member of our profession once supposed, of the larynx or organ of voice. If this definition were correct, a ray of light might be thrown upon the subject by the recent investigations in the physiology of the nervous system; and that it was correct, he was, he thought, prepared to prove. On Friday, the 16th inst., he sent a young friend of his to Mr. Bishop for his opinion. This gentleman, a member of the University of Cambridge, stammered shockingly whenever he was accosted by a stranger, whereas in his own family he spoke without hesitation. Who could fail to see the rationale of this extraordinary fact? The same gentleman was also comparatively free from hesitation when in good health; but his infirmity—he (Dr. Hall) could call it no less—was extremely augmented by derangement of the stomach, intestines, or general health. His case so far resembled that of an interesting communication of the late Dr. Bostock, published in the *Transactions* of the Royal Medical and Chirurgical Society. This derangement acted in two ways; first, by inducing greater susceptibility of the spinal system; secondly, by inducing through that system excited reflex action; but chiefly, indeed almost entirely, the former. Who but a physiologist, then, could comprehend this important subject? Who but a physician or surgeon could select and adduce all the appliances for remedying this sad malady? Nearly allied to stammering were chorea and the paralysis agitans. These, like stammering, were greatly the result of emotion. He had known chorea cease for a moment on removing emotion, by fixing the attention on another topic. He had seen a patient afflicted with paralysis agitans, who was all agitation, and could not take a step, become still and capable of walking, by the security inspired by the mere touch of his hands by those of another person. Remove emotion, inspire confidence, and the malady ceased for the time. Allied to this affection were others, but in a peculiar manner. The laryngismus stridulus—some eccentric forms of epilepsy—belonged to this class. But in these, excited reflex actions constituted the greater part of the disease, emotion the less.

Every man had a right to his own opinion, and he trusted that no one would take offence if he said he was greatly disappointed on reading the opinions of the fellows of that society on the subject of the laryngismus stridulus, as reported in a late number of *The Lancet.* It was not for him to criticise those opinions; but he might be permitted, perhaps, to observe, that they fell far short of our present real knowledge of the important subject. He was of opinion, that the laryngismus stridulus consisted in excited reflex actions, and of the effects of emotion, until convulsions had once taken place, when the brain became involved in what *was* an affection limited to the spinal system.

If, again, this definition were true, how did it guide us in our treatment. It was a gift conferred by physiology upon the art of medicine.

The principal excitants of these reflex actions were causes of irritation, existing, first, within the gums and sockets, from teething; second, in the stomach, indigested food, acidity; third, in the intestines, retained fæces; and fourth, the external atmosphere.

There had been much dispute even on the minute topic of lancing the gums, as to how much or how little these almost insensitive tissues may be lanced or scarified. He would not wait to discuss this question now, but he would say, let us take care that the omission of lancing the gums sufficiently did not lead to convulsions, and its effects on the organ of intellect. The stomach and intestines must be kept effectually free from crudities. He had time to say but one word especially on the influence of the atmosphere. When our little patients were doing well in every respect, we had frequently to endure the disappointment of our efforts in relapses. These relapses were frequently traceable to change in the direction of the wind, to the north, east, or north-west. Now for the deduction to be drawn from this fact of observation: the air of the room should be preserved from currents by securing the door and windows, and be well imbued with vapour; and the little patients should be surrounded by a curtain of single or double net or lace, (such as might be bought for sixpence the square yard). Every source of irritation—of infant emotion, if he might so express himself—must also be avoided. These things, properly and effectually done, he had seen all symptoms of laryngismus, all strabismus, all spasm of the fingers and of the toes, cease at once. Such an event occurred in the case of a patient of Mr. Stilwell, of Uxbridge; and in another, in one of Dr. Grant's, of Thayer-street, within the last week or two: all actual convulsion was averted, the brain was spared, and excited reflex action disappeared.

It should be observed, that the effects of emotion differed from reflex action, in being, generally speaking, more clonic, less tonic, or lasting. This was an important source of diagnosis. But, indeed, had not our knowledge of the spinal system become the source of all diagnosis of the diseases of the nervous system? Could we study, really investigate a case of this class of diseases, without a due knowledge of this system? No; he repeated, this was a gift and boon conferred by physiology on the art of knowing and curing diseases. It taught us the nature and value of symptoms. It was our sole diagnostic. But who really knew or understood the subject? No one who had not seen with his own eyes the actual experiment or experiments. This one remark he made for the correction of a certain weak and ignorant set of persons who wrote and spoke foolishly on this subject.

There was another question to which he must allude. It was this:—What was the precise seat of those emotions (perhaps he ought to say, lower emotions) and passions to which he had ascribed so much importance? It had been asserted by those who wrote to call his opinions into question, that he had assigned the medulla oblongata as the seat of these emotions. Now, he had not stated any opinion quite so boldly. He had, on the contrary, said, "there is good reason to suppose" that the emotions act through the medulla oblongata, &c.

What are the facts which lead us to any opinion on the subject?

Now, first, the hemiplegic arm, removed from the influence of volition by a clot of blood in the cerebral hemisphere, is agitated by emotion. This was fact the first. The seat of emotion is therefore seated below that of volition, whatever both and each may be.

Secondly.—In the idiot, although the cerebrum, cerebellum, and intellect, may be reduced in the utmost degree, anger, voracity, and lust, were frequently manifested in the highest. These emotions were therefore seated otherwise, and lower down than the intellectual faculties.

Thirdly.—Disease seated in the medium lobe of the cerebellum had been known to induce sexual excitement. It may act either on that lobe, or on the adjacent medulla oblongata.

Fourthly.—M. Segalas and M. Andral said distinctly, that injury and disease of the cerebellum induce sexual excitement when they reach to the medulla oblongata.

Fifthly.—Sexual excitement had existed, as in the case of M. Cruveilhier, when the cerebellum had been defective or absent.

Sixthly.—Whatever the precise seat of emotion and passion might be, they undoubtedly act through the medulla oblongata and the spinal and ganglionic systems, affecting especially the expression, the respiration, the heart, the secretions; to which might be added, the deglutition, the sphincters, &c.

Seventhly.—Allied to the emotions and the passions were pleasurable and painful sensations.

He knew not whether we might positively conclude that all these had the same seat. But he could positively assert, from an experiment which he once witnessed in Paris, performed by M. Longet, that the rabbit, deprived of all cerebrum, and of all cerebellum, was susceptible of pain when any part greatly endowed with sentient nerves, as the tail, was pinched with the forceps.

He wished all these facts to be taken for just what they were worth. "Valeant quantum valere debent." If they did not fix the seat of emotion, passion, &c., in or near the medulla oblongata, they effected that localization with great probability.

In speaking of the emotions, he wished to be understood as speaking of the lower emotions, which most nearly approach the passions: such were the love of money, perverseness of temper, anger, fear, &c. Such were seen in the idiot, in the imbecile, &c. When intellect was gone,—when the higher organ of intellect was absent, these remained occupying the lower portion of the encephalon, and if not seated in, acting through the medulla oblongata. More than this he had never said nor meant to say, whilst these last words he had said over and over again. Of the precise seat of the higher emotions, such as veneration, honour, dignity, he had never treated. Of the lower, such as envy, hatred, malice, as they were traceable chiefly in persons of weak intellect, they were placed low in the encephalon. However they might differ on this point, let them at least unite in endeavouring to trace the effects and influence of emotion in inducing, modifying, and curing diseases. Wide was this field. Emotion was the great cause of insanity on the one hand, and hemiplegia on the other. It excited the attacks of epilepsy and of laryngismus; it turned the scale, in certain affections, for or against the patient, according as it was of the elevating kind, as hope, or the depressing, as fear. The other day a patient of a friend of his, seen by Dr. Robert Lee, died of uterine hæmorrhage, in which the loss of blood was so moderate, that these gentlemen could not believe or imagine that the hæmorrhage was the sole cause of the fatal event. The fact was, that the poor sufferer had been affected by some recent events, and had for some time laboured under the depressing conviction that she should not recover from her accouchement. It was the combined depression or exhaustion of the nervous and sanguineous system which destroyed life.

To return to the subject of stammering, it might be truly said that it could scarcely exist without emotion, just as tetanic spasm in tetanus, and the closing spasm in laryngismus, would scarcely exist without excitants: and it is only to be cured by mental discipline, adequately directed and adequately combined with attention to the general health, &c. It is a complication entirely out of the reach of the non-medical person, involving some of the most abstruse views of psychologic physiology, and pathology.

Lancet, May 15, 1847, *p.* 515.

217.—*On the Effects of Potassa Fusa.*—By Dr. John Barnes, St. Louis.

Having in a large number of cases employed the potassa fusa or vegetable caustic, for upwards of twenty-five years in my practice in Philadelphia, Mississippi, and St. Louis, as a powerful rubefacient and counter-irritant, in some forms of diseased action; and which mode of using this remedial agent, so far as my reading extends, is not explicitly described in medical works, either practical or elementary, it being regarded by most, if not all writers, exclusively as a powerful escharotic, for the destruction of parts requiring removal; and believing that its employment, in the manner to be described, and in the forms of diseased action to be designated, has been pre-eminently successful over other modes of treatment in like affections, at least, so far as my own observations extend, I deem it due to the profession, to present, for the consideration of its members, the results of my experience in the employment, in the manner designated, of this article of the materia medica.

In the different forms of whitlow or paronychia, and in all the stages of each form of this painful affection, I have used this remedy very extensively and with the most satisfactory results. If applied early and before deep-seated suppuration and ulceration have taken place, the disease may be promptly removed; and, even in later periods of the disease, when suppuration has commenced, the mischief in many cases may be quickly arrested, and the patient's suffering greatly mitigated, and its duration shortened. Even in those cases, in which, owing to neglect or mismanagement, the deep-seated suppuration and consequent ulceration have been extensive, and the pus has made its exit, causing great injury to the surrounding parts, the chronic inflammation and consequent enlargement of the diseased tissues are essentially benefited by its application; care being taken to avoid those parts where the cuticle has been destroyed.

I do not pretend to assert that in all cases the early application of the vegetable caustic will supersede the necessity of an operation to procure an exit for the confined pus, but this much I will say, that I have seen a great many cases get well under its action, which I believe could not have been cured without an operation, had any other mode of treatment been adopted.

This remedy is especially adapted to the treatment of those cases of whitlow in which the disease has its seat in the vicinity of the metacarpal bones, as the operation of cutting down to the diseased tissues in this part is rendered hazardous, owing to the situation of the circumflex arteries of the hand.

My mode of using the vegetable caustic in cases of whitlow or paronychia, is to take a portion of a stick of it, and, wrapping a roll of paper around one end of it, to protect the fingers from its action, I slightly moisten with water the other end, and rub it over the surface of the diseased and adjacent parts for a few seconds, and until the patient complains of a painful burning sensation—if this burning sensation very quickly subsides, I frequently reapply it for a short time. In most cases, however, the burning sensation lasts for several minutes, which I deem sufficient for the time, and patients often complain of its great severity.

To avoid all danger of destruction of the skin, I attend, carefully, during its application, to the sensations of the patient, and desist so soon as much pain is experienced, and carefully remove, with a piece of linen cloth, any portions of the vegetable caustic which may remain on the surface to which it has been applied.

These applications of the vegetable caustic are to be repeated as often as the exigencies of each respective case may demand. In some cases the application may be made daily, and even oftener; in other cases every other day will be sufficient; while, in some cases once or twice a week will be as often as the diseased parts will admit of its application, During the employment of this remedy, such other treatment as the case requires should be adopted in connexion with it.

In the treatment of venereal bubo, I have derived great benefit from the application of the vegetable caustic in promoting its dispersion or absorption. I apply it, repeating the application as often as may be necessary, over the whole surface of the skin covering the enlarged gland, and for an inch or two beyond, in the same manner as directed in the treatment of whitlow; and its use when applied to the delicate skin of the groin is usually succeeded by a crop of minute pustules.

In a large number of cases, I have very happily effected dispersion of the bubo by the use of this remedy, and in those cases where, notwithstanding its application, the bubo has gone on to suppuration, and thereby greatly mitigated the sufferings of the patient.

If deemed necessary, the application of leeches may precede the use of the vegetable caustic, and during its employment, mercurials may be taken internally, and mercurial frictions be made to the inside of the thighs, and the bubo itself be dressed with stramonium ointment, or any other appropriate application. In many cases, however, if the bubo be not very large, a few applications of the vegetable caustic will be sufficient for its entire removal, without the use of any other remedy; but prudence, at the same time, dictates the exhibition of some alterative medicine for the protection of the constitution from ulterior consequences, which may arise from the venereal poison.

As respects the use of the vegetable caustic as a rubefacient and counter-irritant in the forms of disease before mentioned, I feel no hesitation in recommending it as a most efficient remedy, having fully tested its virtues in numerous cases in a long course of practice.

I have no doubt the vegetable caustic will be found an invaluable remedy in almost all cases in which it may be desirable to produce prompt and efficient influence by rubefacients and counter-irritants.—*St. Louis American Journal.*

Dublin Medical Press, Oct. 13, 1847, *p.* 223.

218.—*On Alterations of the Mediate Principles of the Body.*—By Professor Andral.—(Translated by D. Mc Carthy, Esq.)—The solid mediate inorganic principles may be either simple or compound. The former are four in number—viz , carbon, phosphorus, sulphur, and iron.

The carbon is either in combination with oxygen or in its pure state. In childhood and advanced years, less carbon is consumed than in manhood, but in children it is employed for the growth of the body; in old age it is deposited in a pure state in the lungs, which it renders more or less incapable of respiration, increasing thereby the dangers of pneumonia. In consumption these deposits sometimes take place, and have been observed to coincide with an amendment which has lasted for years (N. Guillot). If such deposits do not take place in old age, the carbon must of necessity remain in the blood, and there occasion more or less morbid change.

Phosphorus exists in the body either free or combined with oxygen; it is a constituting part of fibrine and albumen; it exists in the brain, where it varies with the age of the individual (Denis), and is said to diminish in some cases of insanity (Couerbe.)

We know nothing of the varieties of quantity of the sulphur naturally contained in our tissues: it exists in fibrine and albumen, on the surface of and around certain ulcers, in some abscesses, and on the intestine, to which it communicates a slate colour, due to hydrosulphate of iron (Vogel).

Iron we find in the hair, in the blood, in the black pigmentum of the body. Many other simple bodies exist in our system, potassium and calcium, for instance, but they have not been studied.

The salts natural to the body may vary in quantity, state, or situation. With regard to quantity, we find, for instance, that an increase of the alkaline salts of the blood always corresponds with diminution of its fibrine, as in scurvy; diminution of these salts in the bones constitutes osteo-malacia; and the perspiration of gouty subjects is, according to Berzélius, loaded with saline matter. As to their state, the salts may become solid, and form concretions, as in the urinary or gall bladder. The situation of these salts may also vary; we find them occasionally in the walls of arteries, or deposited on the valves of the heart, or on the surface of the lung (phosphate of lime).

In disease, new salts may be produced. Thus, sulphuret of ammonia has been said to exist in the blood; in the urine sometimes oxalates, and in the solid parts urate of soda and of lime are deposited in cases of gout.

The acidity or alkalinity of our fluids is a most important condition: thus, the diminution of the acidity of the gastric juice must impair digestion; its increase may influence unfavourably the health of the stomach.

Having glanced at the alterations of the mediate principles, we now turn to the consideration of the immediate principles of the system. They should be studied during health and disease; in chyle, blood, lymph, secreted fluids, solid structures, and morbid products: in all cases they may be considered as deriving their origin from one substance—protein. Let us first examine those which contain nitrogen; we will afterwards enumerate those principles which do not contain that element.

Albumen is the first immediate principle which we have to investigate; its quantity may vary in the blood, from age or disease. In all our secretions it is to be found: in the fluids, separated from the blood by inflammation, it is more abundant than in those which are extravasated in consequence of some obstacle to the freedom of circulation. In the solids of the body, albumen increases with the age of the individual; in a child aged one day they contain 4 per cent., at eighty years the solids contain 7 per cent., of albumen.

In the crystalline lens, Berzélius says that fluid albumen may be found; and M. Lassaigne has attributed its opacity in cataract to the solidification of that albumen.

In tubercles a mattery albumen is said to exist; it can be occasionally detected in the urine, in the serous contents of cysts and in pus, even after its filtration.

Fibrine is less abundant in the system than albumen; it is, in its solid state, the basis of muscular textures, and in a liquid condition can be met with in lymph, chyle, and serum; in the blood, its quantity increases from the presence of inflammation, and diminishes in diseases of an opposite and debilitating character, as will be hereafter seen in the study of hematology. Extravasated fibrine coagulates in a short time, but its solidification may be prevented or delayed by the action of certain substances, such as alkaline salts. Inflammation sometimes causes fibrine to escape from the blood, together with a certain amount of albumen, water, and salts; and it is then deposited on the surface of the solids, in the shape of coagulable or plastic lymph, and occasionally in flakes floating in serum; or again, in granulations, of which instances may be often seen on the surface of mucous membranes. Fibrinary exudations not unfrequently become vascular, and are by some pathologists looked upon as the origin of numerous accidental products, such as cancer, tubercle, &c.—an opinion which, to say the least, must be looked upon as premature.

Casein resembles closely albumen and fibrine; its presence has not only been detected in milk, but in some cases in blood, saliva, bile, urine, pus, and tubercular deposits: we must, however, pause before we consider its existence in the last-named substances as perfectly demonstrated.

Urea varies considerably in quantity in the urine, according to the nature of the diet of each subject, and also according to ages and sexes: thus Lecanu asserts that more urea is separated in a given time by the male than by the female adult, more by the female than by the child, and more by the child than by the aged of either sex. In disease, the proportion of urea contained in the renal secretion varies considerably. When abandoned to itself, urine is decomposed, and urea is converted into carbonate of ammonia—a substance of the same elementary composition, but differing from it in the arrangement of its component atoms. It is in the bladder, not in the kidneys, that this transformation is operated. Accidentally, urea may be found in the blood, as in granular kidney, in violent cholera, when the urinary secretion is entirely suppressed (Henle). Urea is not formed in the kidneys; as a proof of the assertion, we may quote Prévost and Dumas, who, having removed the kidneys of an animal, found urea in the blood. Henle also detected urea in the blood of a healthy ox. In albuminuria, urea has been found in the various serous effusions. Nysten mentions two instances in which urea was detected in substances thrown up from the stomach; but in one of the cases he acknowledges that an imposition was practised upon him by the patient.

Uric acid is a compound originating from urea, and its quantity may be increased in the urine without disease of the kidneys, as in gravel, intense fever, and cirrhosis; in the latter disorder, it constitutes, together with dropsy, an almost positive sign of the hepatic affection. In gout, not only is uric acid superabundant in the urine, but it is also found in a solid condition in the neighbourhood of the joints.

We are unacquainted with the alterations of the immediate principles of bile, with the exception of those of its colouring matter, which is sometimes found in the serum of blood and in the various secretions, in consequence of nervous disturbances of the liver, of inflammation of that viscus, of changes in its texture, or of mechanical impediments to the excretion of bile. In the present state of science we are unable to state if this colouring matter is absorbed after its formation in the chylopoietic organs, or if it is created in a primary manner in the blood.

Gelatine is another immediate principle, the quantity of which may vary in the bones, in cartilaginous or tendinous structures, and may also be found accidentally in some morbid productions.

Ptyaline exists naturally in saliva, and the changes in its proportions may exercise some influence on the accomplishment of digestion.

Pepsin is an organic substance found in the gastric juice; its quantity and qualities are modified by various circumstances, and probably are influenced by the state of the nervous system; this would explain several disturbances of the digestive functions, hitherto unaccounted for, and amongst others those produced in some individuals by mental anxiety.

We now turn to the consideration of those immediate principles which do not contain azote.

Sugar of milk exists naturally in milk, but it has also been met with in other fluids. Schneger detected its presence in the peritoneal effusion found in the body of a woman recently delivered, and Henle in the intestines of women after arrest of the lacteal secretion. These assertions, however, require further confirmation.

Lactic acid is abundantly diffused in our system. It has the property of dissolving rapidly phosphate of lime, and Henle fancies that its presence in large quantities in the blood may sometimes coincide with mollities ossium. Mitsherlisch states that lactic acid is formed in the capillaries, and there acts upon the alkaline carbonates in such a manner as to liberate carbonic acid, which returns with the venous blood to the lungs in order to be evolved. The hypothesis is plausible, but not absolutely demonstrated.

Fatty principles have been met with in chyle, blood, pus, and nervous textures. They sometimes pass from the solid to the liquid state, and also from the latter to the former condition. Thus, cholestrine, usually fluid in bile, is often the basis of solid concretions. Fatty principles may accidentally be detected in unexpected situations: thus, cholesterine exists occasionally in certain dropsical secretions, in the shape of minute bright particles; often in hydrocele, or in ovarian cysts. In some viscera we may also notice the preternatural development of fatty matter—in the liver, for instance. All the immediate principles which have hitherto occupied our attention may be produced during health; but others also must be examined which are formed only in disease. Thus oxalic acid, hippuric acid, and sugar, do not appear in the healthy urine. If, however, animals are fed on sweet vegetable substances, or on cane-sugar, uncrystallizable sugar is found during digestion in the intestines. M. Bernard has shown that this sugar is absorbed into the blood, where it disappears; but, if certain diseases are present, this transformation of the sugar in the blood ceases to be performed—the saccharine matter is expelled with the urine and other secretions, and the animal invariably dies within a very short period. Saccharine matter is thereby proved to be indispensable to a proper and healthy assimilation and nutrition. We are perfectly ignorant of the chemical cause by which this elaboration is prevented in the blood of diabetic subjects. It is not, therefore, with disease of the kidney that we must connect the presence of sugar in the urine, but with a deep disturbance of the digestive functions, and of the vitality of the blood.

Medical Times, April **17, 1847,** ***p.* 155.**

219.—*On the Restoration of the Nose.*—By M. Bonnet, Professor of Clinical Surgery at Lyons, &c.—[The operations hitherto devised for restoration of the nose, are imperfect: M. Bonnet's method may perhaps be better.]

The plan he advocates, and which he would substitute for those now in use, consists in taking a portion of the upper lip, in its entire thickness. For the adoption of this he finds anatomical grounds. He remarks: "The ala of the nose is composed of a layer of skin externally, mucous membrane internally, and intermediate between these two, fibro-cartilage. In order, therefore, to procure a complete restoration of the part of the ala destroyed, it is necessary to replace it by a portion formed like it of skin, mucous membrane, and of an intermediate tissue of a certain solidity. None of the methods hitherto practised fulfil these conditions. When the flap is taken from the forehead or cheek, and, to bring it into its new position, is twisted on its pedicle, according to the usual (the French) plan, the wing so formed is made up only of skin. Moreover, this imperfect result is itself uncertain; the flap of skin has a great tendency to gangrene, and particularly at its margins, and in the most fortunate cases, a very apparent cicatrix remains at the place whence it was detached.

All these imperfections disappear, if we borrow the flap from the upper lip. 1. The three elements of the wing of the nose are reproduced; the skin is replaced by that in the immediate vicinity; the mucous membrane of the nostril by that of the mouth; the fibro-cartilage of the ala by the muscular tissue of the lip. 2. The flap, being two-thirteenths of an inch thick, or a little more, nourished by numerous vessels, and twisted scarcely a quarter of a circle, will necessarily continue to maintain its vitality, and form an immediate union. The opening of the nostril has no tendency to become deformed, since it is surrounded on all sides by mucous membrane, which will not contract adhesion with itself. 3. The wound made in the upper lip, to detach the flap, will always unite by the first intention, and leave but a linear cicatrix."

From these considerations M. Bonnet was long led to believe that the upper lip might be so used; and this he has since put to the proof, with eminent success.

A man, aged fifty-seven, had the left ala of his nose completely destroyed by herpes excedens, leaving a great chasm in the face, through which one might see over a great part of the nasal fossa. As this deformity interfered with his livelihood, the patient applied to M. Bonnet, who considered it a favourable case in which to try the operation he had contemplated.

On the 8th of May, therefore in the present year, M. Bonnet proceeded to operate in the following manner: After having shaved the margins of the orifice in all their extent, which produced a large triangular wound, bounded in front by the vertical cartilage forming the partition between the nostrils; above, at the vertical angle, by the lower border of the nasal bone; and posteriorly, by the ascending nasal process of the superior maxillary bone, the base being parallel with the palate,—he cut through the upper lip by two incisions. The first incision was begun from the posterior angle, and carried downwards, and somewhat obliquely inwards, towards the mesial line, to the free border of the lip. The second commenced about two lines higher up, and ten-thirteenths of an inch posteriorly to it, and continued almost perpendicularly, terminated at the commissure of the lips. The space which separated these two incisions on the free margin of the lip was equal in extent to that presented by the anterior border of the chasm to be filled up. The flap thus formed having being detached from the upper maxilla to the extent of two-fifths of an inch, the cut edges of the lip were brought together, and secured by three pins; and the mucous membrane which covered the lower border of the flap having being sliced off, the latter was twisted a quarter of an inch, so as to bring its anterior border in relation with the posterior of the wound, and its inferior with the anterior of the cavity—i.e., with the edge of the nasal dissepiment, whilst its posterior border formed the free margin of the newly-formed ala. Five points of interrupted suture sufficed to maintain the flap in its new position, whilst three were applied along its border, which corresponded with the free margin of the ala.

At the present time, the wound of the upper lip appears only as a line or cicatrix, like that left after the operation for hare-lip. The flap seems exactly adapted to its novel situation, whilst its twisted pedicle is but slightly prominent, appearing only as a part of the posterior contour of the ala.

Lancet, Sept. 4, 1847, *p.* 261.

220.—*On Painful Crepitation of the Tendons.*—By M. VELPEAU. The man whom you have just seen is a dyer by trade, æt. 49, and his case deserves a moment's notice. A week since he endeavoured to raise a load, having his left hand applied to his hip. He felt a violent pain in this arm, and now we may perceive a slight swelling at the lower and external part of the forearm, unaccompanied by any change of colour or fluctuation. Of a regular and elongated shape, it is only painful during motion, while on applying the hand over it we may perceive a fine, characteristic crepitation; and it is an example of the *painful crepitation of the tendons* which was vaguely indicated by Boyer and Desault, described by me first in 1825, and has since formed the subject of the special writings of several authors. I first met with it in a case in the hospital of Tours, where it was suspected to be a fracture of the radius. The affection is especially observed among washerwomen, mowers, blacksmiths, locksmiths, and joiners, and when it is seated in the foot, among soldiers, huntsmen, &c. Excessive friction is the condition necessary for its production. In the forearm and wrist, where it is especially met with, its recognition is very easy, the crepitation it gives rise to being quite pathognomic, being neither like that felt in fractures, that of cartilage or emphysema: but which has been compared to the crepitation of starch or of hoar-frost—such as is produced by walking on the snow. Its seat is evidently the sheath of the tendons, and it is probably due to a slight inflammation, first causing too great dryness of the mucous membrane, and afterwards giving rise to effusion. It is generally in no-wise serious, disappearing in a few days by rest alone: but it must not be absolutely neglected, for I have seen it in some cases give rise to a fungous transformation of the sheaths; and indeed there is no reason why all the changes which occur in diseases of the joints should not take place here. If there is much pain we apply leeches and poultices, and the resolvent lotions and compression: but rest is indispensable—*Gazette des Hôpitaux*, No. 82.

Medico-Chirurgical Review, Oct. 1847, *p.* 587.

221.—*Treatment of Fissures of the Anus.*—M. DIDAY recommends the patient to apply to the anus, night and morning, with the end of the finger, a portion of ointment, about the size of a cherry-stone, composed as follows:—Axungiæ 15 grammes, tannin 1 gramme, increasing the portion of tannin gradually to three grammes or more, according to its effect on the sensibility of the part. To apply it efficiently, the patient should push his finger as far as possible without forcing the sphincter, and there leave the ointment.

Where fissures are situated higher, a solution of tannin may be injected into the rectum with a small syringe. The quantity of liquid introduced should be as small as possible, in order that it may be retained for some time. In both cases the patient should experience some degree of heat, and smarting continues for some time after the application.

Medical Times, Sept. 11, 1847, *p.* 575.

222.—*Ipecacuanha in the Bites of Venomous Animals.*—By H. Collett, Esq.—[A little girl was bitten by a centipede; after the usual remedies, oil, spirit, laudanum, ammonia, had been exhausted without relief to the pain,]

I fetched a bottle of wine of ipecacuanha from the chest, and gave it to the mother to apply locally, at the same time telling her that I had not the slightest faith in the remedy; but to my surprise and delight she came out of her cabin in two minutes, to tell me it had stopped the pain instantly. I requested her to re-apply it if necessary. The pain returned once, when it again immediately and entirely relieved it. If so minute a quantity as is contained in the wine, could be attended with such good effects, I think much more might be expected from its use in the concentrated form of emetine.

Provincial Medical and Surgical Journal, June 30, 1847, *p.* 348.

223.—*On the Influence of the Weather on Health.*—By Professor Casper, Berlin.

1. In Berlin, while the month of January is the least, December is the most favourable to health.
2. The greatest number of deaths occur in spring, and the smallest number in summer.
3. Extremes of temperature are dangerous to life.
4. A high barometrical pressure tends to increase, while a low barometrical pressure tends to decrease, the rate of mortality.
5. The influence of atmospheric pressure on human life varies in different seasons.
6. No condition of the air is so dangerous to life as dry cold. On the contrary, humid cold has the greatest tendency to support life.
7. Of all seasons of the year, the winter gives rise to the greatest number of cases of inflammatory diseases, while the spring is most fatal to them, especially to cases of pneumonia.
8. Cold winters, warm springs, summers, and autumns, increase the danger and fatality attendant on inflammation attacking the brain and respiratory organs; and vice versâ.
9. The maximum mortality from phthisis occurs in spring, and after this season in winter. The minimum mortality from this disease occurs in autumn and summer.
10. Variations in the state of the atmosphere appear to exert but little influence upon the relative number of deaths from phthisis.

11. Nervous fever is most frequent and fatal in autumn; it is least frequent and fatal in spring.

12. The influence of weather and season upon health varies with the different periods of life.

13. This influence is most marked in the ages of infancy and puberty, but it is least marked in the first septennial period of existence.

14. From the twentieth year upwards, the winter is the most dangerous, and the summer the most favourable season to life and health; and the older the individual the more striking is this difference.

British and Foreign Med. Review, July, 1847, *p.* 113.

221.—ON CHLOROFORM, AS A SUBSTITUTE FOR ETHER.

By Professor Simpson, Edinburgh.

[Dr. Simpson having been engaged in experiments with the view of finding a substitute for ether, which should exhibit all the efficacy of the latter without its disadvantages, has found that these properties are possessed in the highest degree by *chloroform*, or perchloride of formyle, of which liquid he gives the following account.]

Chloroform was first discovered and described at nearly the same time by Soubeiran (1831), and Liebig (1832); its composition was first accurately ascertained by the distinguished French chemist, Dumas, in 1835.—See the *Annales de Chimie et de Physique*, vols. xlviii., xlix., and lviii. It has been used by some practitioners internally; Guillot prescribed it as anti-spasmodic in asthma, exhibiting it in small doses, and diluted a hundred times.—(See Bouchardat's *Annuaire de Therapeutique* for 1844, p. 35.) But no person, so far as I am aware, has used it by inhalation, or discovered its remarkable anæsthetic properties till the date of my own experiments.

It is a dense, limpid, colourless liquid, readily evaporating, and possessing an agreeable, fragrant, fruit-like odour, and a saccharine pleasant taste.

As an inhaled anæsthetic agent, it possesses over sulphuric ether the following advantages.

[These are, briefly, that a very much smaller quantity of chloroform than of ether is required to produce the anæsthetic effect, usually from 100 to 120 drops. That hence the agent will be more portable, and probably less expensive. That the action of chloroform is much more rapid and complete than that of ether, and generally more persistent; that its influence is far more agreeable to the patient; and that it does not leave an unpleasant odour upon the clothes or in the breath. Lastly, that no special inhaler is required for its exhibition, a hollow sponge, a pocket handkerchief, or even a piece of paper upon which to diffuse the fluid, answering every purpose. Dr. Simpson observes:]

When used for surgical purposes, perhaps it will be found to be most easily given upon a handkerchief, gathered up into a cup-like form in the hand of the exhibitor, and with the open end of the cup placed over the nose and mouth of the patient. For the first inspiration or two, it should be held at a distance of half an inch or so from the face, and then more and more closely applied to it. To insure a rapid and perfect anæsthetic effect—more especially where the operation is to be severe—one or two teaspoonfuls of the chloroform should be at once placed upon the hollow of the handkerchief, and immediately held to the face of the patient. Generally a snoring sleep speedily supervenes; and when it does so, it is a perfect test of the superinduction of complete insensibility. But a patient may be quite anæsthetic without this symptom supervening.

I have not yet had an opportunity of using chloroform in any capital surgical operation, but have exhibited it with perfect success in tooth-drawing, opening abscesses, for annulling the pain of dysmenorrhœa and of neuralgia, and in two or three cases where I was using deep, and otherwise very painful galvano-puncture for the treatment of ovarian dropsy, &c. I have employed it also in obstetric practice with entire success. The lady to whom it was first exhibited during parturition, had been previously delivered in the country by perforation of the head of the infant, after a labour of three days' duration. In this, her second confinement, pains supervened a fortnight before the full time. Three hours and a-half after they commenced, and, ere the first stage of the labour was completed, I placed her under the influence of the chloroform, by moistening, with half a tea-spoonful of the liquid, a pocket handkerchief, rolled up into a funnel shape, and with the broad or open end of the funnel placed over her mouth and nostrils. In consequence of the evaporation of the fluid, it was once more renewed in about ten or twelve minutes. The child was expelled in about twenty-five minutes after the inhalation was begun. The mother subsequently remained longer soporose than commonly happens after ether. The squalling of the child did not, as usual, rouse her; and some minutes elapsed after the placenta was expelled, and after the child was removed by the nurse into another room, before the patient awoke. She then turned round and observed to me that she had "enjoyed a very comfortable sleep, and indeed required it, as she was so tired, but would now be more able for the work before her." I evaded entering into conversation with her, believing, as I have already stated, that the most complete possible quietude forms one of the principal secrets for the successful employment of either ether or chloroform. In a little time she again remarked that she was afraid her "sleep had stopped the pains." Shortly afterwards, her infant was brought in by the nurse from the adjoining room, and it was a matter of no small difficulty to convince the astonished mother that the labour was entirely over, and that the child presented to her was really her "own living baby."

Perhaps I may be excused from adding, that since publishing on the subject of ether inhalation in midwifery, seven or eight months ago, and then for the first time directing the attention of the medical profession to its great use and importance in natural and morbid parturition, I have employed it, with few and rare exceptions, in every case of labour that I have attended; and with the most delightful results. And I have no doubt whatever, that some years hence the practice will be general. Obstetricians may oppose it, but I believe our patients themselves will force the use of it upon the profession. I have never had the pleasure of watching over a series of better and more rapid recoveries; nor once witnessed any disagreeable result follow to either mother or child; whilst I have now seen an immense amount of maternal pain and agony saved by its employment. And I most conscientiously believe that the proud mission of the physician is distinctly twofold—namely, to alleviate human suffering, as well as preserve human life.

[Professor Simpson relates several cases in which Professor Miller and Dr. Duncan operated on patients under the influence of chloroform. An amputation of the toe, an operation for the cure of fistulous opening in the cheek, and an operation for necrosis of the fore-arm. As a specimen we may quote Professor Miller's account of the last-named case. He says,]

On holding a handkerchief, on which some chloroform had been sprinkled, to his face, he became frightened, and wrestled to be away. He was held gently, however, by Dr. Simpson, and obliged to inhale. After a few inspirations he ceased to cry or move, and fell into a sound snoring sleep. A deep incision was now made down to the diseased bone; and, by the use of the forceps, nearly the whole of the radius, in the state of sequestrum, was extracted. During this operation, and the subsequent examination of the wound by the finger, not the slightest evidence of the suffering of pain was given. He still slept on soundly, and was carried back to his ward in that state. Half an hour afterwards, he was found in bed, like a child newly awakened from a refreshing sleep, with a clear merry eye, and placid expression of countenance, wholly unlike what is found to obtain after ordinary etherization. On being questioned by a Gaelic interpreter who was found among the students, he stated that he had never felt any pain, and that he felt none now. On being shown his wounded arm, he looked much surprised, but neither cried nor otherwise expressed the slightest alarm.

The whole quantity of chloroform used in these three operations did not exceed half an ounce,—and, as Professor Miller afterwards observed to the students that were present, if ether had been used, several ounces of it would have been requisite to produce the same amount of anæsthetic effect.

I have, up to this date, exhibited the chloroform to about fifty individuals. In not a single instance has the slightest bad result of any kind whatever occurred from its employment.

The preparation which I have employed was made according to the following formula of Dumas:—

℞. Chloride of lime in powder, ℔. iv.; water, ℔. xii.; rectified spirit, f ℥ xii.

Mix in a capacious retort or still, and distill as long as a dense liquid, which sinks in the water with which it comes over, is produced.—(Gray's *Supplement to the Pharmacopœia*, 1846, p. 633.)

See Dr Simpson's Pamphlet; also Med. Gazette, Nov. 26, 1847, *p.* 934, *and Lancet, Nov.* 20, 1847, *p.* 549.

[Several cases are related in the Lancet of Nov. 27, in which this agent was used at St. Bartholomew's Hospital, where it appears that Mr. Lawrence has used chloric ether repeatedly. In remarking on these cases, Mr. Holmes Coote says,—]

The cases here related are of interest, in confirming the favourable report given by Professor Simpson of the effects of this anæsthetic agent. "A greatly less quantity of chloroform than of ether is requisite to produce the desired effect: its action is much more rapid and complete, and generally more persistent. Its perfume, which is not unpleasant, does not remain for any length of time obstinately attached to the clothes of the attendant, or exhaling in a disagreeable manner from the lungs of the patient."

The three patients, the particulars of whose cases are here shortly given, did not experience the smallest inconvenience from the inhalation into the lungs: the condition into which they were thrown—differing from the state of stupor, which commonly ensues after the inhalation of ether—bore the closest resemblance to profound sleep; they recovered quickly, the smell was speedily gone, and the cases are now going on most favourably.

Without wishing in any way to detract from the very great merit of Professor Simpson, in introducing this valuable agent, I may observe that for some considerable time Mr. Lawrence has used, in private practice, the chloric ether, which is chloroform in spirit and water. Patients with irritable lungs, who could not tolerate the violent paroxysms of coughing induced by the sulphuric ether, readily inhaled the chloric ether, the taste and smell of which are similar to those of chloroform; the anæsthetic effect was more gently induced, and there were fewer complaints, on recovery, of soreness of the chest, headach, &c. The less irritating effect of the chloric ether was noticed by Mr. Taylor, and by myself, in some experiments (reported in this journal) performed upon animals; their efforts to escape were most violent, when immersed in the vapour of sulphuric ether.

One of the students of the hospital, who in the early part of the year was anxious to have some painful stumps of teeth removed from the jaw, kindly consented to take the two ethers upon different occasions, and to report the result. He described the taste of he chloric ether as much more agreeable than that of the sulphuric;

the effect upon the lungs as less irritating and oppressive; but he thought that the state of unconsciousness was not equally complete. Mr. Lawrence has, however, performed many most severe operations upon patients rendered perfectly insensible to pain by the inhalation of the chloric ether, and he is now in the habit of directing its administration.

The advantages which the chloroform appears to possess are so numerous and important, that if the results of subsequent trials are equally successful with those here recorded, there is little doubt of its superseding all other known anæsthetic agents. Some modification in the mode of its administration may be requisite, since, as I am informed by Mr. Mitchell Henry, one of the house-surgeons, the lips of two of the patients have been vesicated by the application of the sponge.

Lancet, Nov. 27, 1847, *p.* 571.

[Dr. Protheroe Smith also relates an obstetric case in the same journal, in which its effects seemed satisfactory. In an editorial article in the Medical Gazette, we find the following additional information on this subject:]—

With respect to the chemical nature of this anæsthetic, so much confusion has been introduced into chemical nomenclature by those who profess a strong desire to simplify the science, that it is not unlikely that other compounds may be mistaken for it. The profession is indebted to Dr. Pereira for the removal of much of the obscurity connected with this subject; and we elsewhere print an extract from the Pharmaceutical Journal, containing an historical notice of this compound, which has been for some time used in London as a local application, and sold under the name of Chloric Ether, or Terchloride of Carbon.*

Chloric ether is a name which has been given to two compounds different in composition,—to the oil of olefiant gas ($C_4\ H_4\ Cl_2$), or, in the German compound radical system, to the *Hydrochlorate of Chloride of Acetyle* ($C_4\ H_3\ Cl + H\ Cl$,)—and to an alcoholic solution of the perchloride of formyle of Liebig, or the chloroform of Dumas ($C_2\ H,\ Cl_3$.)

We have entered into these chemical details, as, owing to the confusion in nomenclature, one substance may be supplied for the other. Dr. Simpson's experiments have been performed with the latter (Chloroform,) and the effects of the former compound have yet to be determined.*

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* The following is a simple method of preparing the liquid, according to Liebig.—One part of hydrate of lime is suspended in twenty-four parts of water, and a current of chlorine gas is sent through the mixture until the greater part of the lime is dissolved, and a little milk of lime is added to make the liquid alkaline. When the solution of chloride of lime has become clear by repose, one twenty-fourth of its volume of alcohol is added; and, after being left to itself for twenty-four hours, the liquid is distilled by a gentle heat in a capacious retort. The product has an ethereal odour, and contains perchloride of formyle mixed with alcohol. On shaking it, the perchloride separates as a dense liquid, and may be obtained perfectly pure by digesting it on chloride of calcium, and distilling it again with concentrated sulphuric acid

It is not our intention to offer any remarks on the physiological properties of chloroform: they are sufficiently detailed in Dr. Simpson's paper. In midwifery practice, he has found it especially useful in allaying the pains of labour, without retarding that process, and without injury to the child. On this point he must be regarded as a competent authority. That chloroform vapour will supersede the use of ether-vapour is by no means improbable; but the extent to which this new agent can be safely and beneficially employed in surgery still remains to be proved. We have not forgotten the enthusiasm with which ether-vaponr was first introduced to the profession,—an enthusiasm that completely blinded the eyes of operators to the danger attending its indiscriminate employment; and admitting that we have here an improved method of producing insensibility, we must reserve our opinion until the new agent has received a fair trial.†

Medical Gazette, Nov. 26, 1847, *p.* 938.

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* It is proper to mention that Mr. Bell successfully employed the vapour of chloric ether as a substitute for that of sulphuric ether as early as February of the present year (See Pharmaceuticel Journal, Feb. 1847, p. 357.)

Since the above remarks were written, we have ascertained that the liquid employed by Mr. Bell was the identital compound recommended by Dr. Simpson, i e., chloroform, or perchloride of formyle, which has been extensively sold in London as chloric ether, or terchloride of carbon. It is prepared from chloride of lime and alcohol. Soon after ether-inhalation was introduced, Mr. Bell tried chloric ether, and found it to answer. It was employed at the Middlesex Hospital, but as it is more expensive than sulphuric ether, it has not lately been so much in request. Dr. Simpson's preparation appears to be of a more concentrated kind than that usually sold. One circumstance is worthy the attention of those who may be inclined to make a trial of this agent, namely, that there must be a great difference in its strength and quality. Whilst some druggists sell it at eight shillings a pound, others are selling it at from four to five shillings an ounce!

There is not, therefore, that novelty in the use of this agent, which the reports in the medical journals would have led the profession to suppose. At the same time, it is evident, from Dr. Simpson's paper, that this gentleman was not acquainted with the prior experiments of Mr. Bell. The only public notice of them which we have seen, is contained in the note of the February number of the Pharmaceutical Journal, to which we have already referred.

† We are informed that chloroform vapour was employed by Mr. Key in an operation performed at Guy's Hospital on Tuesday last. About half an ounce was expended. The vapour appeared to have a more stimulating effect than that of ether. Although the man appeared sensible, he did not experience any pain.

225.—MODUS OPERANDI OF ETHER.

[At a meeting of the French Academy, M. **Flourens** related experiments from which he concluded that the phenomena of 'etherization' are not produced by the injection of ether into the arteries, or into the stomach.]

M.M. Preisser and Melays, of Rouen, related experiments to prove that a cessation of the pulmonary changes of the blood is the explanation of ethereal insensibility. They have ascertained—1. That arterial blood always becomes dark under the effects of ether. 2. That this change precedes the insensibility. 3. That after the etherial inhalation was suspended, the arterial colour of the blood is restored previous to the return of sensibility.

In order to determine whether the mere privation of oxygen is sufficient to produce insensibility, they caused animals to inhale nitrogen, protoxide of nitrogen, &c., and found that in all insensibility was preceded by a dark colour of the arterial blood, and that a return to its normal colour preceded the return to sensibility. From these data they decide that ether simply asphyxiates.

Provincial Med. and Surg. Journal, June 2, 1847, *p.* 299.

According to Dr. Snow, there are five degrees of etherization; the first including "the various changes of feeling that a person may experience, whilst he still retains a correct consciousness of where he is, and what is occurring around him, and a capacity to direct his voluntary movements. In the second degree, the mental functions may be exercised, and voluntary actions performed, but in a disordered manner. In the third degree, there is no evidence of any mental function being exercised, and consequently no voluntary motions occur; but muscular contractions, in addition to those concerned in respiration, may sometimes take place as the effect of the ether, or of external impressions. In the fourth degree no movements are seen, except those of respiration, and they incapable of being influenced by external impressions. In the fifth degree, (not witnessed in the human being,) the respiratory movements are more or less paralyzed, and become difficult, feeble, or irregular.

Lancet, Oct. 16, 1847, *p.* 410.

226.—**Professor Syme** *on Etherization.*—Professor Syme's first trials of ether were not at all satisfactory:—he subsequently used a very simple apparatus consisting of a flask with a wide mouth-piece, and an aperture in the side to admit air, without valves, the ether being poured upon a piece of flannel in the flask. He says:]

I found the results of this second trial very different from those of the first. The patients, instead of requiring a tedious and laborious respiration, frequently interrupted by cough, yielded almost immediately to the overwhelming and not unpleasing influence of the full ethereal stream. They consequently inhaled on the whole a smaller quantity, and suffered in a proportionate degree less of the disagreeable effects.

[Professor Syme remarks that though physical pain is an evil, the amount of pain in great operations being estimated by that of slight ones such as the extraction of a tooth, is much exaggerated in the public mind. And whenever the obtaining immunity from pain interferes with the proper performance of an operation, it is most dearly purchased. Thus he says:]

In many operations it is of the utmost importance that the patient should retain a voluntary control over his movements, not only for assisting the operator by executing those that he may desire, but by abstaining from those which would be obstructive of the object in view. Thus I have known the little operation for fistula in ano not only impeded but prevented by the convulsive efforts induced through the use of ether. In all careful dissections, as those for hernia, and the removal of tumours from intricate connections of importance, I would therefore advise against the inhalation. I lately disarticulated a clavicle from the sternum, for osteo-sarcoma, and dissected out some large deep-seated tumours of the neck, with results which, I believe, might not have proved so satisfactory if ether had been used. In operations affecting the nose and mouth, also, I should think it inexpedient to render the patient insensible; lest from the want of voluntary effort, suffocation, or an approach to it, might arise from the entrance of blood into the air passages. Finally, I beg to warn against administering the ether to persons in a state of great weakness or exhaustion.

Monthly Journal, Aug., 1847, *p.* 73.

227.—*Ether Vapour Enemata.*—M. Pirogoff, Professor of Clinical Surgery at St. Petersburg, has been trying some experiments on the effects produced by the injection of ether vapour into the rectum. Having cleared out the rectum by an enema, M. Pirogoff introduces the ether by means of a catheter attached to a syringe, the latter being enclosed in a vessel of water sufficiently heated to convert the ether, during its passage, into vapour. M. Pirogoff thinks that the narcotizing effects are produced more speedily, and with much less pain and trouble to the patient. It was found that in from two to four minutes the odour of the vapour was perceptible in the breath; and the usual effect is produced on the patient in from three to five minutes. The quantity of ether used in each experiment has varied from half an ounce to two ounces. No injurious symptoms have followed its use in this way, and the most troublesome operations have been performed with great facility.—*Gazette Médicale*, 8 Mai.

Medical Gazette, May 14, 1847, *p.* 842.

[Professor Pirogoff's employment of ether-vapour enemata was anticipated in India, by Mr. Crawford, who narcotized a dog by ether contained in a bladder with an ivory glyster-pipe: "the bladder" he says, "should rest in a basin of boiling water; nothing more is necessary." The same process was at Mr. Crawford's suggestion, employed on two men: loss of sensibility was produced, but vomiting, and other unusual symptoms followed.]

Medical Gazette, June 11, 1847, *p.* 1049.

The following case is taken from a small pamphlet (a reprint from the *Madras Spectator)* forwarded by Dr. J. T. Johnstone. It affords little encouragement to repeat the operation:—

"A. B——, European, a strong, healthy-looking man, having hydrocele on the left side, of about one year's standing, presented himself at my house for operation, on Thursday, 1st of April, and wished to be put under the influence of ether previously. Having on the day previous, as recommended by Assistant-surgeon Crawford, used the vapour of ether as an enema, by way of experiment, on three dogs, with the effect of producing symptoms of drunkenness, attended by vomiting and apparent diminution of sensibility in each case, I considered the present a fair opportunity of trying it in this way on the human subject. I put one ounce of ether into a common bladder with an ivory pipe, placed the bladder in hot water, and forced the vapour into the rectum as it evaporated. The patient immediately complained of much uneasiness, said he felt as if I were throwing boiling lead into him, was griped, and tasted the ether in his breath. His breath also smelt strongly of it. In a few minutes he felt so much distended, was griped, and felt altogether so uncomfortable, that he made me discontinue the injection, saying that he would rather suffer the pain of the operation than go on with it. I did so, and performed the operation for the radical cure in the usual way. He did not feel at all affected by the ether, and the pain of the operation seemed as much as usual. It is worthy of remark, that in the course of the first week after the use of the ether, he passed from fifteen to eighteen lumbrici, varying from two to six inches in length. They were all dead when passed. He had taken no medicine except a dose of castor oil."

[In this case it is stated that the vapour of ether "was forced into the rectum as it evaporated." In the case formerly related the ether succeeded much better when it was allowed to evaporate spontaneously and make its own way through the pipe.]

Lancet, July 10, 1847, *p.* 50.

228.—*Simple Method of Administering Ether.*—[Mr. Tracy, of St. Bartholomew's, records six cases in which narcotism was produced when the ether was inhaled from a sponge. Dr. Thomas Smith, of Cheltenham, indeed recommended this method early in the year.* Mr. Tracy observes:]

I have administered ether in all the operations at this hospital, as well as for the extraction of a large number of teeth, making a total of more than fifteen hundred cases, and I can with safety say that we never have had more successful cases than the six I have just recorded; and I am convinced that persons may be as effectually influenced by a sponge containing ether as by any other apparatus. Having, then, thrown aside the apparatus of my own invention, I think I may be permitted to recommend to the profession a trial of the sponge.

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* See Retrospect, Vol. xv. p. 417.

Medical Gazette, Aug. 20, 1847, *p.* 349.

[Mr. Morton, of Boston, U.S., confirms the value of this simple method of etherization as follows:—]

I was never satisfied with any apparatus at all for the purpose of inhalation, there being so much repugnance to it. I was led, therefore, to make further experiments on this subject, which have resulted in an entire abandonment of my old inhaler, and the substitution of the sponge. This should be about the size of the open hand, or a little larger, and concave, to suit over the nose and mouth. The sponge is then thoroughly saturated with ether, applied to the nose and mouth, and, with the latter open, the patient directed to inhale as fully and freely as possible. In this way, I have found the result more sure and satisfactory, and the difficulty of inhalation very much reduced, or entirely removed. The most delicate or nervous females, or aged persons, as well as young children, are thus rapidly and almost imperceptibly narcotized, even before they are aware, as in some cases, that the administration has commenced. The beauty and importance of this means is its perfect simplicity. Formerly, many persons could not be induced to persevere; now I do not find any who cannot inhale the vapour without serious difficulty.

Lancet, July 17, 1847, *p.* 81.

The inhaling apparatus used and contrived by M. Roux, consists of a bag, made like a lady's reticule, its opening being dilated or contracted by the drawing or loosing of the strings around it, and lined by a pig's bladder, furnished with a mouth-piece. In using this apparatus, the mouth and nostrils are both placed in the sac drawn over them, and inhalation goes on with the ether-vapour, given off from some sponges soaked in ether, and placed in the bladder. M. Roux believes this form of inhaler to possess peculiar advantages, by allowing inhalation to go on by the mouth and nose at the same time; by being readily used with children; by not covering the eyes; by allowing persons submitted to the ether-vapour, to cry, speak, or to express their different sentiments; by its simplicity, cheapness, and procurability everywhere; and by its portability, &c. It seems also that Professor Porta, of Pavia, has contrived, independently, an apparatus very similar to that of M. Roux.

M. Roux states that he has employed the inhalation of ether with success, repeated many times, in a case of neuralgia of the face, recurring in paroxysms several times in the day; and he narrates a case of a young governess, highly susceptible and subject to spasms, in whom a large piece of imperfectly masticated meat stuck in the œsophagus. All efforts of extraction failed; they only tended to fix the mass firmer in the opening of the pharynx in the œsophagus; and every attempt caused pain and spasm, which tormented the patient for twenty-seven hours. Œsophagotomy seemed the last resource. But the young woman being put under the influence of ether, and the nervous excitement and pain allayed, M. Roux was able, in the calm of insensibility, to seize and withdraw the foreign body.

Lancet, July 24, 1847, *p*. 102.

229.—ETHER IN MIDWIFERY.

By Dr. Protheroe Smith.

[Dr. Protheroe Smith has more particularly than almost any other writer called our attention to the influence of this agent *in relaxing the os uteri.* How many hours by this simple process may be saved both to patient and medical attendant.

One of the cases of labour in which Dr. Protheroe Smith administered ether vapour, was retarded by a *rigid state of the os uteri.* It was a foot presentation, and when Dr. Smith arrived, the patient had been in labour ten hours: the body protruded from the vagina, but the head was arrested at the inlet, by the rigid os, which closely embraced it. Dr. Smith says:]

A portion of placenta, of the size of an egg, projected from the os posteriorly. I decided on employing the inhalation of ether, in the hope it might modify this unfavourable condition by aiding the dilatation of the os, and so obviate the necessity of craniotomy. The bladder having been emptied, the ether was administered at half-past ten A.M., and in two minutes the patient was completely under its influence. The pains, which before recurred every two minutes, now became incessant and powerful. The os quickly yielded to the pressure of the head, which almost immediately descended into the true pelvis, from which it was easily extracted in the usual way, by depressing the face towards the chest, and elevating the occiput. The child was born in ten minutes, from the commencement of the inhalation. Some hæmorrhage followed, which was arrested by peeling off the portion of the placenta adherent to the posterior part of the neck, close to the margin of the os. From this circumstance, and from the spontaneous separation of that portion of the placenta which I found loose in the vagina, it was evident that the placenta had partially presented, but to so slight an extent, as to escape detection in the early stages of the labour. The descent of the body, and the consequent compression of the ruptured vessels, prevented much loss of blood. The patient was etherized for fifteen minutes, and consumed one ounce and a half of ether. The uterus contracted firmly immediately after the expulsion of its contents, and there was no return of hæmorrhage. Consciousness was restored in one minute after she had ceased to inhale the ether. She was entirely ignorant of the birth of the child, and of all the circumstances attending it.

[The second case was one of complete placenta previa. The patient, a delicate woman, of lax fibre, and who had borne eight children, had been in labour eleven hours when Dr. Smith was sent for. The vagina had been well plugged by Mr. Fisher who was in attendance, but on faintness coming on, the plug had been removed. Dr. S. says:]

On my arrival at a quarter to four A.M., I ascertained that about two-thirds of the placenta were in the vagina, and that the adherent portion was attached to the posterior part of the cervix. The flaccid, pulseless state of the funis, and other indications of the death of the child, induced me to urge the immediate separation of the remaining portion of the placenta. This being accomplished, the hæmorrhage, which just before was profuse, instantly and entirely ceased. The pains were slight but regular. Both feet could now be felt through the os uteri, which was sufficiently dilated to admit of the passage of the child. Her countenance was blanched, her pulse very feeble and wiry, and she was much exhausted. The ether was applied at twenty-eight minutes past four, and the patient was immediately narcotized. The pulse rose in frequency and power, and continued permanently improved, as was also her countenance. The uterine and abdominal efforts became very expulsive, and were without intermission, occasionally attended with loud cries especially when the head escaped from the os externum. In four minutes from the first exhibition of the ether, a still-born, eight-months female child was delivered. She partially recovered herself in five minutes, but was not perfectly restored till almost ten minutes after she had ceased to inhale. She then stated that she had lost all consciousness after the second inspiration of ethereal vapour, and was wholly ignorant of what followed. She describes the state of etherization to be one of "peaceful deep sleep, without dreams." During the administration of the ether the pupils of the eyes were dilated but not turned up. The pulse, which at first was quick, afterward became slow and soft. She lay quite motionless, except just as the head was passing through the os, when she screamed and there was a slight movement of the arms and legs; the uterus contracted well, and no hæmorrhage followed.—Half past eleven A.M., (seven hours after delivery:) has had some comfortable sleep; has no after-pains. She is altogether free from complaint, with the exception of slight headach.—Quarter past nine P.M.: Doing well in every respect.

17th.—Has only required a little castor oil once since her delivery. Says she feels better than after any of her former labours, and is in every way doing well. In her previous confinements, she had always suffered much from after-pains, which have invariably required opiates for their relief. On this occasion, she has not experienced any.

Although the circulation was much enfeebled in this case, I did not hesitate to employ the ether, under the conviction that experience had not verified the assertion, that a state of depression follows its use. I have narrowly watched a large number of cases at St. Bartholomew's Hospital and elsewhere, in which ether has been exhibited, and in no instance have I discovered the collapse mentioned by some authors; but on the contrary, I have found that the pulse, after the symptoms of narcotism have passed away, has retained the same strength as before inhalation.

Lancet, July 31, 1847, *p.* 121.

230.—*On the Employment of Ether in Midwifery.*—By Professor Von Siebold.—[The questions proposed in Professor Siebold's paper, read before a scientific association at Gottingen was, whether the use of ether is to be limited to operative midwifery, or whether this agent may be employed to alleviate the pain of natural labour. He endeavoured to ascertain if the employment of ether during labour was injurious to the mother; if it interfered with the efficiency of the pains; and if it injured the child. First he experimented on healthy non-pregnant women, who all described their sensation, during the process, as agreeable. He then administered the vapour to pregnant women: as unconsciousness appeared, the movements of the child increased; but when stupor was complete, the child became again quiet: there was no change in the action of the fœtal heart. Professor Siebold proceeds to tell us:]

After this, the remedy was tried in eight cases of labour. In all of them a greater or less degree of unconsciousness was produced by it; but, with the occurrence of the narcotism, the labour pains at once ceased, even in cases where but a short time before they had been of the strongest kind. In some the pains returned only with returning consciousness; but in others they were re-excited, during the continuance of the narcotism, by friction over the abdomen. Signs of pain were indeed manifested during the expulsion of the child; yet afterwards there was either no remembrance at all of them, or only a very slight one. No injury was observed to result either to mother or child; for although one child was born in a state of death-like stupor, yet this was not the fault of the ether, for the umbilical cord was found firmly twisted around its neck.

Although the results of the employment of this new remedy in natural cases of labour was therefore not very satisfactory, yet the advantages afforded by it in those cases which required an operation were very manifest. The first case of this kind in which the remedy was tried, was that of a young primipara, in whom extraction of the child by the feet was rendered necessary. The pains endured by this patient were very severe: she tossed about the bed, screamed aloud, and, by the continual movements of her whole body, rendered even an ordinary examination difficult. But, when brought under the influence of the vapour of ether, she speedily fell into a state of unconsciousness, during which the extraction of the child was effected with ease. She remained perfectly quiet, and a few groans during the operation were the only manifestations of pain which she evinced. Through the irritation which the extraction of the child excited in the uterus, this organ was thrown into contraction, and thus aided the operation. The child made the necessary turns, the arms appeared of themselves, and the head shortly afterwards was born. In about two minutes after the birth of a living child, the woman roused up: she appeared astonished; and, on seeing her child, exclaimed—“ Oh, it is all over!—without this I could not have endured it.” When further questioned, she said she felt as if in a dream, and fancied she was in her native place, and strolling among trees in blossom. She had no recollection of pain. The case progressed favourably, and terminated well.

Equally successful were the results of two forceps-operations performed while the patients were under the influence of ether. In both cases, indeed, the commencement of unconsciousness was accompanied by cessation of the labour pains, but in each they were re-excited by the introduction and use of the instruments, and thus aided the operation. The application of the forceps was in both cases unaccompanied by pain, and it was only during traction that any signs of suffering were manifested. When roused from their stupor, the patients possessed no recollection of what had happened to them, and expressed amazement at their labour being over. The children in both instances lived. It is deserving of especial notice, that in both the operations, the parts of generation, the vagina and os uteri, were rendered so soft and lax by the narcotism, that the introduction of the blades of the forceps could be effected with the greatest ease. In neither case did any evil consequences result: in one of them, indeed, such effective pains ensued shortly after delivery, that the placenta was spontaneously expelled. The softness and relaxation of parts in these cases leads to the suggestion that in those cases in which strong contraction of the uterus offers considerable difficulty in the performance of a requisite operation—as in cases of turning, or of incarcerated placenta —the vapour of ether may render very efficient service.

[Dr. Protheroe Smith's opinion respecting the relaxation of the os uteri are remarkably confirmed by Professor Von Siebold, who here makes one striking remark, “ that in both the operations, the parts of generation, the vagina and *os uteri*, were rendered so soft and lax by the narcotism, that the introduction of the blades of the forceps could be effected with the greatest ease.” Now we would suggest the application of this remedy in cases where the rigidity of these parts constitutes the greatest possible *bore* to the practitioner, as well as a most painful period to the patient. It is very probable that we shall be able to save many hours of suffering by simply, at an early and convenient period of labour, producing relaxation by ether or chloroform, which we consider to be one of the most useful, convenient, and delightful modes of relieving the suffering patient, and for which the profession is so deeply indebted to Dr. Simpson.]

Medical Gazette, June 11, 1847, *p.* 1052.

231.—*New Method of procuring Insensibility.*—Our inventive neighbours, the French, have contrived a new plan of procuring insensibility. M. Ducros is the surgeon who practises the method alluded to, and has communicated the results of his experiments, in several letters to the Academy of Sciences. The agent employed is the electro-magnetic current. Individuals who have been subjected to the current have been quite insensible to pricking or pinching at all parts of the body; and teeth have been extracted without their knowledge.

Lancet, July 24, 1847, *p.* 101.

232.—*Effects of Electricity in Overcoming the Stupor of Etherization.*—By M. Ducros.—M. Ducros states that the phenomena produced by the vapour of ether on chickens and pigeons last from seven to eight minutes: but if these birds when thus under the influence of ether are submitted to the action of electricity by placing them on the isolating stool and allowing a current of positive electricity to pass into them, they recover from their insensibility in about thirty seconds. If they are placed on the electric conductor they are aroused in ten seconds, and if they are placed at the extremities of the conductors, and thus made to receive electric shocks, their vigour is instantly restored. When submitted to the action of the simple apparatus of Clarke, the electro-magnetic current is equally instantaneous in effecting their restoration. The influence of negative electricity instead of abridging the insensibility appears to prolong it.—*Comptes Rendus.*

Dublin Medical Press, May 19, 1847, *p.* 313.

A SYNOPSIS,

CONTAINING

A SHORT ABSTRACT OF THE MOST PRACTICAL ARTICLES IN THE FOREGOING PAGES OF THIS VOLUME; AND SHOWING, AT A GLANCE, THE MOST IMPORTANT INDICATIONS OF TREATMENT BY DIFFERENT WRITERS, PUBLISHED WITHIN THE LAST HALF-YEAR. (ARRANGED ALPHABETICALLY.)

DISEASES AFFECTING THE SYSTEM GENERALLY.

Fever.—Distinguish the simple continued fever from typhus as early as possible. In neither form is depletion, whether by leeching, purgatives, or venesection required; and in typhus these measures would be very injurious. In *simple fever*, for the first few days give diaphoretics, and strong beef broth made salty, in lieu of purgatives: and if the patient be old, give negus or punch, about the ninth or tenth day. The case being thus managed, it will be found that on the thirteenth or fifteenth day there is a critical discharge; the pulse is coming down, and the tongue becoming clean. Suspend the treatment for twenty-four hours; and then give a mild aperient, and place the patient on light nutritious regimen, and afterwards some preparation of bark. In *typhus*, give the diaphoretics and the salty broth, and in addition, keep the head cool, by occasionally pouring cold water over it, or the application of a bladder of ice; and give a grain of calomel night and morning, and let a scruple of mercurial ointment be rubbed in, night and morning, until the crisis begins to appear. Give good old claret, and if any stronger stimulant is needed, brandy may be given when the crisis is expected. If there is hiccup or twitching of the muscles, give musk, and apply a blister to the nape, or epigastrium, or over the heart. If in addition to hiccup, there are a tympanitic abdomen, dry brown tongue, involuntary discharges, pulse 120 and small, &c., give camphor and carbonate of ammonia with opium, and wine or brandy, and apply blisters or sinapisms. If the case should go on favourably, the stimulants should be discontinued when the pulse falls, about the fifteenth day; and the subsequent treatment be the same as that directed for simple continued fever. (Dr. O'Reilly, p. 1.)

The head symptoms are usually the most serious; therefore anticipate these, as Dr. Graves advises, by free leeching and blistering. Better still, bleed from the arm to eight or twelve ounces: this treatment will moderate all the symptoms, will prevent the occurrence of secondary inflammations and congestions, and will cause the patient to derive more benefit from the administration of wine at the proper stage, than he otherwise would do. The treatment should be anticipatory, and should be active and antiphlogistic, as distinguished from expectant. (Dr. H. Kennedy, p. 11.)

When there is cold skin, feeble sinking pulse, and indifference to surrounding objects, adopt a modification of the hydropathic treatment. Wrap the patient in a sheet wrung out of very hot water, cover him up, and give hot wine-negus with liq. ammon. acet. Cover a hot brick with wet cloth, wrap in flannel and apply to the feet. Repeat this sweating process every day for three or four days. (Mr. Burrows, p. 14.)

A persevering use of due stimulation forms the best means of alleviating all the symptoms. Give ammonia; it is not contra-indicated by thirst, flushed cheeks, or depraved secretions. (Dr. S. Wright, p. 6.)

A mild mercurial treatment has been the best for the present epidemic: give mercury with chalk, three times a-day, combining it with Dover's powder, when diarrhœa is present. (Dr. T. Thompson, p. 5.)

African Remittent.—To preserve in health the crew of a ship on the malarious coasts, they should land as seldom and for as short a time as possible, and not after nightfall; should not sleep on shore if it can be avoided, and on no account without having a complete screen between the body and the sky; should be prohibited from access to intoxicating liquors; and should take daily a dose of quinine or bark, both when exposed to the malaria and for a fortnight after returning on board. The ship must be kept clean, well-ventilated, and free from damp. If in spite of all precautions malignant fever break out, the ship must leave the coast. (Dr. A. Bryson, p. 17.)

Intermittent.—Give 15 or 20 grains of quinine at once. It may be given in any stage of the disease, and requires no previous treatment, except a brisk purgative of compound jalap powder when there is great torpor of the bowels. If there is diarrhœa and irritable stomach, combine with the quinine a little sulphate of morphia; if the skin is very dry, and the thirst urgent, add a little sp. æth. nit. (Dr. Upshur, p. 15.)

Irritative.—Endeavour to restore the whole of the secretions, and for this purpose use Sir A. Cooper's prescription:—℞. Hydr. chlorid. gr. iij.; opii gr. ss. M. ft. pil. stat. sumend. ℞. Magnes. sulph. ℥i.; liq. ammon. acet. ℥i.; liq. antim. tart. ʒi.; tr. hyoscyami. ʒi.; aq. menth. virid. ℥vii.; capt. cochl. larg. ij.; 4 tis horis donec alvus bene responderit. If there is tendency to sickness, do not use antimony, but give effervescing draughts. Enjoin abstinence from animal food, and let diluents be taken freely. If the symptoms have a typhoid character, conjoin local depletion, sedation, and counter-irritation, with the use of opium, bark, or stimuli. First,act on the bowels, then give small doses of opium; and do not allow animal food until the pulse and the temperature of the skin have been lowered. (Mr. B. Cooper, p. 369.)

Typhoid.—Where severe diarrhœa is the principal symptom (dothin enteritis), give enemata containing from one to three grains of nitrate of silver in distilled water; one enema is sometimes sufficient. Or give the nitrate by the mouth in half-grain doses formed into pills with tragacanth or starch, every half hour until two, three, or four grains have been taken. (Mr. Aickin, p. 167.)

Typhoid fever often depends upon an inflammatory condition of the brain; but this state does not necessarily indicate depletory measures; moderate depletion may, however, be necessary in the early stage of fever. Do not, on the other hand, give stimulants because the pulse is feeble; they do harm. The expectant treatment is the best; give the patient food and drink as he requires; and attend to cleanliness and proper ventilation. (Dr. Clutterbuck, p. 5.)

DROPSY.—*Following Scarlatina.*—If the invasion was sudden, with high fever, full rapid pulse, and almost entire suppression of the urine, bleed freely from the arm, and give a mixture with nitrate of potash, liq. ammon. acet. and tartar emetic, in moderate doses every two hours, with calomel and compound jalap powder at night, and the latter repeated in large doses in the morning. Or give a hot bath every night; keep the patient in bed, wrapped in flannel; and give the following: ℞. Vin. ant. tart. ♏. x.; julep. ammon. acet. ʒiii., syrup. papav. ♏ x.; every four hours; with pulv. ipecac. co. gr. iiss.; hydrarg. c. cretâ gr. v. every evening. Croton oil, elaterium and other drastics may also be given.

When the swelling has come on slowly, with but little fever, use the same means with the exception of the bleeding. If head or chest symptoms come on, give elaterium from a twelfth to a sixth of a grain every four hours, or a combination of elaterium, squill, and calomel. Subsequently iodide of potassium, or preparations of iron, will be indicated.

Diuretics increase the irritation of the kidneys. (Dr. Charlton, p. 177.)

GOUT.—Give benzoate of potash or ammonia. (Dr. E. Seymour, p. 48.)

Inflammation.—The time for the discontinuance of blood-letting should be determined not by the blood drawn ceasing to be buffy, but by its coagulating more rapidly than in the normal state. (Dr. Polli, p. 109.)

Chronic.—Of Joints, Glands, &c.—Do not attempt too active treatment. Give small doses of bichloride of mercury with sarsaparilla, or Plummer's pill with hyosciamus at night, and when healthy secretions are restored give up the use of mercury, and give iodine. Half a grain of iodine, and half a drachm of iodide of potassium, with half an ounce of syrup of poppy, may be added to eight ounces of infusion of gentian, and an ounce given three times a-day. Apply to the chronic swellings either warm water dressings, or if the warmth is not agreeable, a lotion containing a drachm of muriate of ammonia, two ounces each of spirit of wine and liquor ammoniæ acetatis, and four ounces of water. (Mr. B. Cooper, p. 369.)

Rheumatism.—*Acute.*—Recommend a hot bath containing two ounces of carbonate of soda, at bed time, and a mixture like the following. ℞. Sodæ bicarb. ʒij.; mist. camphoræ ℥viii. M. ℥i 3 tis horis: with toast water as a diluent. If there is much lithic deposit in the urine, use potash instead of soda. (Dr. S. Wright, p. 42.)

Give sulphate of quinine, from ℈i. to ʒi. daily, in coffee. (M. Briquet, &c., p. 47.)

Chronic.—In chronic and subacute rheumatism the alkaline treatment is useful, but not to the same extent as in the acute variety. The soda baths may be given, and the following: ℞. Inf. gentian. comp. ℥viij.; sodæ bicarb., potassæ bicarb., aa. ℈ij.; sp. æth. nit. ʒiij. M. ℥j. ter die. pil. rhei co. gr. v. om. nocte. Or the hydriodate of potash may be used, and is especially valuable when combined with the liquor potassæ, as thus: ℞. Inf. buchu, ℥viii.; liq. potassæ ʒj.; potas. hydriod. ʒss.; sp. æth. nit. ʒiij. ℥i. ter die. Hyosciamus may be added to this, or a rhubarb pill with extract of hyosciamus given at bed time. The following is a good form of embrocation for the affected parts: ℞. Lin. sapon. co., ℥ij.; tinct. lyttæ, tinct. opii, aa. ℥ss.; potas. hydriod. ʒiss. M. (Dr. S. Wright, p. 43.)

Give six drops of tincture of aconite, gradually increased to thirty, twice or thrice a day. (M. Magaud, p. 47.)

The last named dose is too great. Five minims every four hours is a sufficient dose to commence with, and the increase must be made by single minims. When an active dose is being taken, the patient must be visited every six or eight hours. (Ed. Prov. Journal, p. 47.)

Scrofula.—Give cod liver oil: enlargements of the tonsils and of the cervical glands will disappear under its use. (Dr. Graves, p. 40.)

Iron is very valuable in the treatment of scrofula; to children at the breast give the vinum ferri, but for older children nothing is better than the sesquioxide, from one to three tea-spoonfuls daily, mixed with treacle. Quinine is also useful; but especially iodine. To the youngest children we may give a grain of iodide of potassium in distilled water, *sweetened immediately before administration*, thrice a-day. If the child is above a year old, from one-tenth to one-eighth of a grain of iodine may be added; and the dose increased according to age. For external use the compound ointment, or the compound tincture of the pharmacopœia, will do; or a lotion with from gr. v. to ʒ ij. of iodide of potassium to an ounce of distilled water. Or when more counter-irritation is needed, paint on the skin near the affected part, a solution of a drachm of iodine and a drachm and a half of iodide of potassium to half an ounce of alcohol. (Dr. W. H. Willshire, p. 37.)

SCURVY.—Arises from a peculiar "epidemic constitution," concurring with humidity, alternations of temperature, moral depression, and the absence of fresh succulent vegetables. Give fresh vegetables plentifully: leeks, onions, water-cresses, sorrel, umbelliferæ, and cruciferæ; orange and lemon juice, citric acid, rhubarb, sour grapes, apples and crabs, gooseberries, &c. Or give the following: Nitre, two drachms; cream of tartar, half an ounce; vinegar, and treacle, each two ounces; water, four ounces. Two table-spoonsful thrice a day. Or this: Oxalic acid, half a drachm; liquor potassæ, a scruple; water, eight ounces. An ounce thrice a day. Or give from two to four drachms of nitre, in the day; attend to cleanliness and ventilation; and let the patient have good food and warm clothing. (Dr. Curran, p. 34.)

Results from a diet too purely farinaceous, saccharo-farinaceous or farinaceous and fatty, concurring with a peculiar "epidemic constitution." Give milk and fresh meat, which alone may cure those cases arising from a deficiency of animal food; but it is usually best to add to the above, succulent vegetables, lemon-juice, oranges, and malt-liquors. On the other hand, in some cases potatoes and succulent vegetables will effect a cure without the use of milk and meat. (Dr. Christison, p. 23.)

Employ a diet consisting of milk, flesh meat, fresh vegetables, wheaten bread and eggs. (Different scales of diet are given, for which see the article.) Give an orange and a pint of porter daily, and two scruples of crystallized citric acid, or two ounces of lemon juice, and half a drachm of nitre, every eight hours. Obviate the tendency to internal congestion by flannel coverings, hot mustard pediluvia, fomentations, &c. If there is diarrhœa, give a couple of ounces of dried tormentilla root boiled slowly in two pints of milk and one of aqua calcis down to a pint, daily; or give infus. hæmatoxyli, alone, or with tormentilla; or along with these give three grains of sulphate of iron, with an aromatic, every four hours; or sulphate of zinc, five grains thrice a-day; or acetate of lead, a scruple in a day. When the limbs are contracted, swollen, and painful, foment with hot flannels, or solution of muriate of ammonia, or even apply leeches; and when the parts will bear it, shampoo twice a-day in hot water, or with warm camphorated oil; and exercise the parts methodically. (Dr. Ritchie, p. 27.)

However much flesh meat the scorbutic may eat, he requires the use of certain vegetable matters to assist its perfect assimilation. Vinegar and nitre, and milk (by its lactic acid?) may be useful, but sour fruits are the best remedies, and the sourer the better. If the diet is not nitrogenous enough, milk may be added to it. (Dr. Anderson, p. 36.)

Originates in an epidemic cause, together with certain errors of diet, especially a deficiency of potatoes. Give a pint of beef-tea, a pint of porter, 12 oz. of bread, and the same quantity of milk, daily; and ʒi. or ʒij. of citric acid or lemon juice, with ℥iv. of infusion of gentian, and water. An orange or two daily may be added for the worst cases. (Dr. Lonsdale, p. 34.)

NERVOUS SYSTEM.

Chorea.—Employ electricity, by drawing sparks from the spine. Do not transmit shocks through the limbs: but in girls, when the chorea seems to depend on amenorrhœa, after relieving the anæmia, pass a few shocks through the uterus. Electricity used in this way, comes next to, if not before, sulphate of zinc, as a remedy in these cases. (Dr. G. Bird, p. 94.)

Chorea and other convulsive diseases are often associated with pregnancy, and are rarely removed until delivery takes place. In the treatment, avoid heroic measures, attend to the secretions, and endeavour to restore the tone of the nervous system by giving sulphate of zinc, one to five grains thrice a-day, with or without ext. gentian, gr. iij; or give ferri sulph. gr. i.; quin. sulph. gr. i.; pulv. capsici. gr. i.; pil. aloe, co. gr. i.; ter. die: with the addition occasionally of pulv. valerianæ, gr. xij., or the valerianate of zinc. (Dr. Lever, p. 348.)

Congestion.—*Active, of the Brain, in Children.*—To secure the sedative influence of cold, half fill two bladders with pounded ice, or cold water; wrap each in a napkin, and place one under and the other above the child's head, securing them to the pillow with a pin. (Dr. West, p. 62.)

Convulsive Diseases.—*Of Children.*—Scarify the gums deeply, freely, and repeatedly: empty the stomach by tickling the throat, or by giving a dose of ipecacuanha: give large warm water enemata, and afterwards mild aperients, especially antacids, such as one-fourth of bicarbonate of potash; and three-fourths of carbonate of magnesia, in an aromatic vehicle. Preserve the child with the utmost care from the slightest mental emotion: surround the bed, in cold weather, with *three* curtains of gauze or net, at intervals of a foot, and keep the atmosphere moist, and at 65°. Get a new and healthy nurse, or feed the child on ass's milk. If general convulsions have occurred, direct the treatment to preventing congestion in the cerebrum: leeches, purgatives, mercurials, alcoholic lotion to the head, and warmth to the feet, &c. If the larynx is closed, dash cold water on the face; and if asphyxia has taken place, excite respiration by compressing the chest and abdomen, and then suddenly removing the pressure. (Dr. M. Hall.)

CRAMP.—*In the Legs and Feet.*—Is often connected with a weakness of the digestive organs: let diet therefore be carefully attended to, and let the sufferer sleep on an inclined plane, the bed being 12 inches higher at the head than at the feet. (Dr. Bardsley, p. 68.)

HYDROCEPHALUS.—*Acute.*—The only available treatment is the prophylactic, which should be the same as for phthisis. Let the child be suckled by a healthy wet nurse, and not be weaned till it has cut four molar teeth: and let milk subsequently form a large part of the diet. Let it reside in the country; wear warm clothing, and have flannel next the skin; avoid over-exercise of body or mind; and be shielded as much as possible from exposure to the contagion of the exanthemata. When the disease has appeared, employ moderate depletion, remembering that the disease is a *scrofulous* inflammation: give purgatives so as to maintain a free action of the bowels for several days: and obtain mercurial action by giving calomel with the purgatives. (Dr. West, p. 52.)

Remember that there are two elements of the disease to deal with, the scrofulous and the inflammatory. If called to the case early, it may be necessary to apply leeches behind the ears, and keep the child in a cool room, with cold to the head; if the symptoms are chiefly those of pressure, and there is great tendency to sleep or stupor, leeches are not required, but the other parts of the treatment are the same as in the first case, viz. to dry cup the nape, or apply sinapisms; to purge freely by the administration by the mouth of aloes and sulphate of potash, and by the exhibition of enemata of castor oil and turpentine. Then rub iodine ointment freely over the scalp, and give iodine internally. A grain of iodide of potassium with one-tenth of a grain of iodine every three hours, may safely be given to the youngest child. (Dr. Willshire, p. 54.)

Chronic.—Cut the hair close, and rub in two drachms of mild mercurial ointment, daily, into the scalp, and keep the head covered with a flannel cap. Give a quarter or half a grain of calomel twice a day, unless diarrhœa come on. After thirty or forty days, if the patient is improving, gradually diminish the medicines: but if not, add a mild diuretic and insert a couple of issues in the occiput, or apply blisters to the nape. Leeching may be occasionally required. In order to prevent the bones of the head yielding to any accumulation of fluid in cases of external hydrocephalus, apply compression by bandaging the head with strips of diachylon plaster about one third of an inch broad: or use Dr. Arnott's *air press*. *Tapping* the head is occasionally proper; use a fine trocar and canula,—make the puncture in the coronal suture, an inch or an inch and a half from the anterior fontanelle; withdraw only a few ounces of fluid at a time, and keep up pressure both during the escape of the fluid, and afterwards. (Dr. West, p. 55.)

Hydrocephaloid Disease, occurring in the progress of infantile diarrhœa. Give (a child 18 months old) a tablespoonful of equal parts of milk and barley water every quarter of an hour, with fifteen drops of brandy every hour, and a little veal broth every two hours. Administer a draught containing ten grains of aromatic confection, half a drachm of compound tincture of bark, and six drops of sal volatile every three hours; and a grain of Dover's powder at bedtime. Gradually withdraw the stimulants when the symptoms are relieved. Hydrocephaloid symptoms may also come on in pneumonia, or after real congestion of the brain has been somewhat over-treated. (Dr. West, p. 58.)

HYDROPHOBIA.—*To prevent.*—First apply caustic, especially in solution, and then excise all that can with safety be removed. If there is no reason to suspect the dog of being rabid, it is better not to operate, since the operation itself produces much irritation, as well as alarms the patient. No treatment is effectual in the cure of hydrophobia. (Mr. B. Cooper, p. 105.)

HYPERTROPHY.—*Of the Brain in Children.*—Let the child's head rest upon a horse-hair cushion, with a hole cut out to receive the occiput, and let it wear a thin linen cap, changed as often as the perspiration demands. Do not use counter-irritation to infants; but older children may have tartar-emetic ointment rubbed into the back of the neck. Leech, when cerebral congestion requires it; but tonics are rather indicated, as extract of bark, vinum ferri, syrup of iodide of iron; or where there is marked tendency to rickets, cod liver oil, (a drachm twice a day for a child three years old.) Sponge the child with salt and water, or sea water, or immerse in a tan-bath made by boiling three handfuls of bruised oak bark tied up in a linen bag, in three quarts of water, for half an hour, and adding the decoction to the water of the child's bath. Get a healthy wet nurse; and, after weaning, give milk diet, with an egg, once or twice a day, and a little veal-broth or beef tea. (Dr. West, p. 61.)

HYSTERIA.—Occurring in a patient of *plethoric habit*, and accompanied by *cerebral symptoms:* leech the head, or cup between the shoulders; if this is ineffectual, give two grains of digitalis twice a day, and put a blister on the nape; for the convulsions of the voluntary muscles give half a grain of extract of belladonna, every eight or twelve hours.

Produced by Accumulation in the Colon.—Clear out the bowels by the repeated exhibition of pills composed of extract of jalap, compound extract of colocynth, and compound rhubarb pill.

Combined with Pyrosis.--Give trisnitrate of bismuth, with a bitter infusion.

From Anæmia.—Give chalybeates. (Dr. Coley, p. 79.)

Hysterical spasms may be subdued by the inhalation of ether vapour, or chloroform. (Mr. Wilkinson, p. 81.)

Neuralgia.—*Facial.*—Cautiously apply an atropine lotion to the side of the face, night and morning: ℞. Atropinæ sulphat., gr. ij.; aquæ rosa, ℥ss. M. fiat lotio.; and give the following pills: ℞. Ext. belladonnæ, gr. one-fourth; fel. tauris, inspis. gr. iv.; pulv. scammon. gr. iij.; sodæ sesquicarb. gr. iij.; assafætidæ gr. ss. M. ft. pil. ij. hora somni sumend. Give an alkaline warm bath twice a week, and insist upon abstinence from stimulating food and drink, and upon the patient taking plenty of exercise. Or try etherization. Put two drachms of ether into a water jug with a mouth wide enough to receive the face, and place this in a hand-basin containing a little hot water. Direct the patient to breathe into and out of the jug, placing a towel over his face to prevent the escape of the vapour. To prevent the recurrence of the attacks give 5 minims of turpentine three or four times a day, and let the alkaline baths, and the effervescing Pitville waters be used. (Dr. T. Smith, p. 76.)

Frontal.—Let from a quarter of a grain to a grain of muriate of morphia be snuffed up the nostril of the affected side, daily, having previously cleansed the mucous membrane by an emollient application. (M. Ebrard, p. 77.)

Paralysis.—In the use of electricity we must remember that the excitability of the nerves appears to be lost. Now though the *contractions* excited by an electric current passed down a nerve in the direction of its ramifications, i.e., a *direct* current, are more powerful than those produced by the passage of a current in the *inverse* direction, yet the *direct* current weakens and destroys the excitability of a nerve, while the inverse current augments it. The best form of electricity that can be used in paralysis is that from the electro-magnetic machine. Apply the interrupted current, and at first a very feeble one; and after twenty or thirty shocks, let the patient rest for some seconds. (M. Matteucci, p. 90.)

Following Local Injury.—In paralysis following local injury, as concussion of the nerves, apply electro-magnetism from the *single current* machine, taking care to transmit it in the direction of the vis nervosa, or in other words, in the direction of the nervous ramifications. (Dr. Bird, p. 101.)

From Effusion, &c.—When the *primary cause* is removed, and the paralysis is still persistent, apply electro-magnetism, the *single* *current* transmitted in the course of the nervous ramifications, and patiently continued for some time. Be very careful not to use this agent where rigid arteries are suspected, or ramollissement of the brain exists. Fatal apoplexy has been known to follow the use of electricity in such cases. (Dr. G. Bird, p. 102.)

When it continues, after the disease in the brain is removed, the muscles must be artificially excited to action, by electricity or otherwise, to ensure their nutrition. (Mr. Paget, p. 103.)

From Lead, (Dropped Hands.) – Take electric sparks from the cervical and dorsal vertebræ thrice a-week; also from the paralysed parts, and in recent cases transmit *small shocks* along the course of the affected nerves. (Dr. G. Bird.)

Hysterical.—Employ electricity either in the form of shock, or the interrupted current from the electro-magnetic machine. If the paralysis is simulated, it will rarely resist the pain and surprise of the shock; and if the affection, however excited at first, is now uninfluenced by the patient's will, the electro-magnetic current is a most valuable therapeutic measure. (Dr. G. Bird, p. 101.)

Of the Portio Dura.—Use electricity: any form will do, as it is merely the stimulus which is required, acting on the paralysed muscular fibres, and arousing their normal irritability. (Dr. G. Bird, p. 100.)

Rheumatic.—(Following the sudden application of cold, independently of any evidence of central spinal lesion.) Take electric sparks thrice a-week from the spine and the paralyzed muscles. (Dr. Bird, p. 98.)

TETANUS—Try electricity. Use a *continued* current, passed *down* the nerves in the direction of their ramifications. The tendency of this *direct continued current,* when its application is sufficiently prolonged, is to *diminish the excitability* of the nerves, and thereby to produce a temporary paralysis. (M. Matteucci, p. 91.)

Traumatic.—Administer the vapour of ether per rectum, by placing ʒiij. of ether in a bladder, with a pipe, and surrounding it with hot flannels: repeat this according to symptoms, or administer it by inhalation. Its effects will be doubtful; but at any rate in some cases it affords relief. (Mr. B. Cooper, p. 70.)

Ether has a marked influence ovor the spasms, especially when they become more chronic. (Mr. Chalmers, p. 72.)

Mr. Hawkesworth also testifies to the efficacy of etherization. (p. 73.)

TOOTHACHE.—Three hours after the last meal in the evening, rub a quarter of a grain of muriate of morphia gently upon the gum, for about three minutes; then incline the head to the affected side, and keep it in that position for ten minutes, taking care neither to spit out nor swallow the saliva. Repeat it in two hours if relief is not obtained, except there is headache or sleepiness. (M. Ebrard, p. 77.)

ORGANS OF CIRCULATION.

PERICARDITIS.—Dr. Taylor's cases seem to show that our opinions on the powers of mercury in pericarditis require revision. In *twelve* cases, ptyalism was not followed by any abatement of the disease; and in six cases pericarditis followed upon the ptyalism. (p. 113.)

Bleed, first generally and then locally, to such an extent as to cut off part of the supply of blood to the part, and to decrease the quantity of fibrin in the blood: give opium to diminish irritability and vascular excitement, and to relieve pain: give purgatives moderately; and blister. But all these remedies combined will be inefficient for good, except mercury be given. Get the patient, therefore, as *quickly as possible* under the specific action of mercury; and for this purpose the best method is to give calomel with opium, and to use frequent frictions with strong mercurial ointment. Colchicum, emetic tartar, and aconite may sometimes be useful in allaying excessive action; but must be given with great caution. (Dr. Shearman, p. 112.)

ORGANS OF RESPIRATION.

ASTHMA.—*Spasmodic.*—Give tincture of lobelia with hydrocyanic acid. For an adult the following will do:—℞. Tr. lobeliæ infl. ʒi.; acid, hydrocyan. gtt. i.—ij. ter quatuor ve die. But if the paroxysm be severe, larger doses of the lobelia may be given. (Dr. Livezey, p. 137.)

CATARRH.—Both of children and adults, especially if inflammatory. Tincture or infusion of lobelia is much better than either ipecacuanha or emetic tartar; being at once a decisive and safe nauseant, and not irritating the bowels. (Dr. Livezey, p. 137.)

CROUP,—*Membranous.*—Apply solution of nitrate of silver (a drachm to the ounce) to all the parts within reach, by means of a sponge; and repeat the application at intervals till the symptoms are relieved. (Dr. Blakeman, p. 128.)

Apply solution of nitrate of silver, seven or eight grains to the ounce, by saturating a ball of lint in the solution, conveying it to the opening of the larynx by a long curved pair of forceps, and then squeezing out the solution by compressing the ball between the blades. Repeat this application every eight hours if required. (Dr. Latour, p. 129.)

Pseudo-Membranous, or True Croup.—Bleed to 4 or 6 oz., and give a teaspoonful of finely powdered alum, mixed with its own, or twice its own bulk of honey, syrup, or treacle, and repeat it in ten, fifteen, or twenty minutes, if the first dose fail to produce free emesis. Use the warm bath; give calomel in three or four grain doses every few hours: if necessary, repeat the emetic, and the depletion by the lancet, or leeches; and apply a ten-grain solution of nitrate of silver to the fauces, twice or thrice a day. (Dr. Meig, p. 130.)

As an emetic give the yellow sulphate of mercury (turpeth mineral) in doses of two or three grains to a child two years old, repeated in ten or fifteen minutes until it acts. (Dr. Hubbard, p. 134.)

HOOPING-COUGH.—Give one-fifth of a grain of nitrate of silver, with half an ounce of simple syrup, and an ounce of water, daily. (Patient's age not stated.) (M. Trousseau, p. 135.)

Give tincture of lobelia with hydrocyanic acid. Vide Asthma. (Dr. Livezey, p. 137.)

LARYNGISMUS STRIDULUS.—Apply a sponge dipped in ether, to the nose and mouth. (Mr. Image, p. 135.)

Spasm of the Windpipe in Infants.—During the paroxysm, dash cold water in the face, and expose to the fresh air. Lance the gums if there is the least fulness or tenderness; and unload the bowels by a dose of calomel, followed by castor oil, and a warm water injection. Afterwards give small doses of calomel or grey powder, and the following mixture: Fœtid spirits of ammonia, half a drachm; dilute hydrocyanic acid, five minims; tincture of henbane, seven minims; spirit of aniseed, one drachm; syrup of orange-peel, four drachms; water, an ounce and a half. A teaspoonful twice or thrice daily. And rub a little liniment upon the chest and spine occasionally; as a drachm of tincture of cantharides, a drachm of laudanum, and an ounce of soap-liniment. Or give assafœtida enemata. Depletion is rarely required. Take the child into the country, and keep it as quiet as possible. (Dr. James Reid, p. 134.)

LARYNGITIS,—*Acute.*—Apply (once) to the fauces, pharynx and larynx, solution of crystallized nitrate of silver, 45 grains to the ounce. (Vide Larynx, follicular disease of.) (Dr. Horace Green, p. 127.)

LARYNX.—*Follicular Disease of.*—Apply solution of *crystallized* nitrate of silver, of from one to four scruples to the ounce of distilled water. Use a piece of whalebone, ten inches long and curved at the extremity, having a small round piece of fine sponge securely attached to it. The mouth being opened wide and the tongue depressed by a spatula of a peculiar form, carry the sponge, dipped in the solution over the top of the epiglottis, and while the patient breathes gently out, press it downwards and forwards through the aperture of the glottis into the laryngeal cavity. Apply this every other day or oftener, for two or three weeks, and then twice a week till the surface assumes a healthy appearance. If there are extensive ulcerations on the epiglottis, and about the mouth of the larynx, apply for once or twice a solution of double the strength of that above mentioned. For a few days before cauterizing the interior of the larynx, *educate* the parts by applying the solution to the more external parts. Give iodide of potassium internally; or sesquioxide of iron; with sedatives, such as belladonna, conium, hyoscyamus, morphia; and expectorants. (Dr. Horace Green, p. 125.)

Ulceration of, from Swallowing Sulphuric Acid.—Apply solution of nitrate of silver. (Vide Laryngitis.) (Dr. Horace Green, p. 127.)

PNEUMONIA.—*Of Children.*—Give emetics of ipecacuanha, and apply blisters. Bleeding and tartarized antimony do not exert much influence on the disease. (M. Guersent, p. 136.)

PHTHISIS.—Examine for a complication by laryngeal disease; if it exist, treat it by the application of solution of nitrate of silver. (Vide Larynx, follicular disease of.) (Dr. Horace Green, p. 128.)

Endeavour to make the individual *fat* by the administration of cod-liver oil, and other means. The true antagonism of phthisis is in the fatty condition. (Dr. Riofrey, p. 147.)

Give cod-liver oil, in doses of a drachm gradually increased to half an ounce, floated on a little aromatic water, thrice a day. (Dr. Madden, p. 148.

TONSILS.—*Follicular Disease of.*—Extirpate (as also the uvula) if much hypertrophied and indurated, and apply strong solution of nitrate of silver. (Dr. Horace Green, p. 127.)

TRACHEA.—*Foreign Bodies in the.*—Perform tracheotomy, in order to allow of the *inversion* of the patient with comparative safety. If then he is inverted and struck upon the back, the body will probably be expelled. (Mr. B. Cooper, p. 203.)

ORGANS OF DIGESTION.

APHTHA.—Apply solution of the subcarbonate of soda, or of borax, of varying strength. (When the aphthous crusts have a disposition to fall off, it is only necessary to pencil them with a soft brush dipped in water.) A long continued use of alkaline applications is inadvisable; change them therefore for astringents and the mineral acids. Or apply a solution of nitrate of silver, eight grains to the ounce. Internally give soda, aqua calcis, or magnesia usta. If there is vomiting of the milk, give an emetic; if the stools are cheesy-looking, give purgatives, especially castor oil, or if there is much secretion of mucus, rhubarb or jalap. To relieve the colicky pains give rhubarb and magnesia, or liq.

succin. ammon. by the mouth or rectum. Avoid giving medicines in *sugar*, which being changed into lactic acid, favours the growth of the aphtha. Take care that the milk is of good quality, and that the child is exposed to a free and pure atmosphere. (Dr. Berg, p. 155.)

Ascarides.—*Of the Rectum.*—Give an enema with five grains of Prussian blue, rubbed up in two ounces of rain water or mucilage, and let it be retained until the next regular stool. Repeat this daily, gradually increasing the quantity of the salt. (Anon. p. 165.)

Cholera.—*Asiatic.*—For the vomiting give a scruple of epsom salts, with five grains of magnesia, and two or three drops of laudanum, in a tablespoonful of water, every three or four hours or oftener. (p. 160.) Bismuth has been used with good effect to relieve the spasms. (Dr. Seymour, p. 159.)

Constipation.—*Habitual in Young Persons.*—First try dietetic means: barley and oatmeal porridge, brown or rye bread, plenty of green vegetables, fruit, and lemonade or cider. In addition to these means, give glysters of warm water, or of gruel with castor or olive oil, or turpentine. If these fail give purgatives which act on the lower bowel; aloes, with myrrh, or galbanum, and sulphur, and next to these, castor or olive oils. Or give Pullna, Seidlitz, Vichy, or Aix-la-Chapelle waters. To children give phosphate of soda, which may be added to soup, instead of salt. Purgatives should be taken not once, but several times in the day, namely, directly before, or during, or soon after the principal means. (Dr. Dick, p. 162.)

Diarrhœa.—*Catarrhal.*—Give camphor mixture or liquor ammoniæ acetatis with vinum ipecacuanhæ, or ammoniacum mixture; and with any of these infusion or tincture of hop, or vinum opii, or half or a quarter of a grain of muriate of morphia. Use diluents freely. And in the aged or feeble, give tonics as soon as they are eligible. (Dr. Dick, p. 164.)

Diarrhœa.—In Infants.—Give nitrate of silver: ℞. Argent nitrat. cryst. gr. ¼.; aquæ distill. ℥ij.; gum mimosæ ℈ij.; sacch. alb. ʒij. M. ft. mist. Give a teaspoonful every two hours; and give an enema containing a quarter of a grain of the salt, with mucilage, and a little opium. Hirsch. (Mr. Aickin, p. 168.)

Obstinate.—In Adults. Give nitrate of silver, from one-twelfth to one-twentieth of a grain every two hours, made into a pill with *liquorice-powder;* and use enemata containing half a grain or a grain, with mucilage and opium. Hirsch. (Mr. Aikin, p. 168)

Purulent.—From Ulceration of the Small Intestines.—Must be treated as dysentery. Take of ipecacuanha, two drachms; water, fourteen ounces; boil, and add two ounces of gum syrup. Give a ninth part every three hours.

Passive and Chronic.—Give the various astringents, tannin, catechu, kino, rhatany, alum, tormentil, or pomegranate. If there are acid eructations, add lime water or chalk mixture. If abdominal pain accompanies this passive diarrhœa, but without acceleration of pulse, give a dose of morphia. (Dr. Dick, p. 164.)

DYSENTERY.—Give nitrate of silver. (Vide Diarrhœa.)

GASTRALGIA.—From excess of acid in the stomach is often attended with epigastric pulsation. Give rhubarb, six grains; bicarbonate of soda, fifteen grains; calumba powder, three grains; compound cinnamon powder, two grains: to be taken in a glass of water before dinner, or at bed-time, and continued for at least a fortnight. If there is pain without heartburn or vomiting, it is probably from irregular contraction, and may be relieved by bismuth; trisnitrate of bismuth, calcined magnesia, compound tragacanth powder, of each a scruple; rub together, and add water, an ounce and a half; syrup half a drachm: to be taken every four hours. If the pain does not yield to this, give a grain of opium thrice a day, and keep the bowels open by injections. Bismuth has been useful in relieving the spasms of the Asiatic cholera. (Dr. E. Seymour, p. 159.)

GUMS.—*Chronic Inflammation of.*—Extract loosened teeth, scarify the gums frequently with a sharp lancet, and rub a little powdered tannin over the gum, twice or thrice a-day; or apply compound spirit of horse raddish, or spirit of scurvy grass, with a piece of soft sponge. (Mr. Tomes, p. 205.)

HERNIA—There are several cases in which strangulation exists as the result of a hernial protrusion, but which is not remediable by the ordinary operation. The first is that of "reduction en masse;" where the strictured sac and its contents have been returned together through the internal ring. Here the internal ring is to be exposed and dilated until the sac is seen, lying between the fascia transversalis and the peritoneum; the sac is then to be drawn down into the canal, and the ordinary operation performed. The two other forms are more obscure, and less amenable to treatment. In one, there is a reducible inguinal hernia, but the sac is prolonged into the abdominal cavity, where it forms a pouch, or as it were a second sac contained between the fascia transversalis and peritoneum. The inguinal canal is unusually long, the internal ring is found quite free and of large size, and the finger is passed through it into the abdominal cavity. These symptoms may lead to a suspicion of the state of the case, for which of course, no further operative measures can be adopted. The third form depends upon the existence of old irreducible epiplocele: the omentum, as it approaches the internal ring, becomes contracted into a firm unyielding cord, and when a fresh intestinal protrusion takes place. a portion of intestine may become incarcerated by this cord within the abdomen. (Mr. Cock. p. 207.)

Strangulated.—Place the patient on the back, with the thighs well flexed; desire him to empty the lungs as much as possible, and then, while an assistant holds the nose and mouth to prevent inspiration, make gentle pressure over the tumour. (Dr. Buchanan.—Mr. Mackie, p. 210.)

When a *moderate* use of the taxis fails, apply fomentations of about the temperature of the surface, and gradually increase the heat as high as the patient can bear: then very gradually reduce it, till the applications are quite cold. The time from one extreme to another being not less than hour. Repeat the process, if necessary. (M. Allen, p. 211.)

Give full doses of opium; for instance a grain every hour (Mr. Mayo, Dr. Long, Dr. Lane, Mr. Allan, &c. p. 212.)

The operation without opening the sac should be attempted in all cases in which it is practicable, unless there be gangrene or advanced inflammation. In most cases of large herniæ, in many of middle size, and in but few small herniæ, except in the earliest stage of strangulation. (Mr. Teale, p. 216.)

Œsophagus.—To extract foreign bodies from the œsophagus, use a slender piece of whalebone to the end of which a thread is attached. When the instrument is passed beyond the obstruction, the thread is to be drawn tense, so as to bring the whalebone into the form of a V, and it is then withdrawn, bringing up the foreign body. (M. Fontan, p. 206.)

Piles.—*Internal.*—Give mild aperients, apply nitric acid to the tumours, and a liniment of liq. plumbi diacet. and olive oil: and if the mucous membrane is much relaxed give an enema containing sulphate of zinc occasionally at bed-time. (Dr. Hargrave, p. 217.)

Pyrosis.—Give pu. kino. co. gr. v. in the day, and keep the bowels free by aloes, rhubarb, or enemata. A blister over the epigastrium will sometimes be useful. (Dr. Seymour, p. 159.)

Tœnia.—Make up seventy-two drops of the ethereal oil of male fern into twelve pills: give six in the morning and six in the evening, (on the same day?) and two hours after the last is taken give a dose of castor oil. (M. Rayer, p. 165.)

Ulcers.—*On the Gums.*—Apply diluted nitric acid (equal parts) with a camel-hair pencil. (Mr. Tomes, p. 206.)

Ulceration of the Stomach.—Produced by increased secretion of gastric juice. In that gastric disorder which often occurs in the advanced stages of phthisis, and is attended with increased secretion of the gastric juice, such as may produce ulceration, give liq. potassæ, fifteen drops, or bicarb. potassæ, a scruple, thrice a day, or give infusion of logwood, ℥i. thrice a day, which will also arrest diarrhœa. (Dr. Budd, p. 158.)

Vomiting.—For *sympathetic* vomiting, especially in females, give an effervescing draught, with a scruple of carbonate of ammonia and a table spoonful of lemon juice, every four hours; or a common effervescing draught, with from three to eight minims of laudanum; or a scruple of sulphate of magnesia, ten grains of carbonate of magnesia, ten drachms of mint water, and from three to six minims of laudanum, every four hours; or apply a blister or a mustard poultice; or give half a grain or a grain of *fresh* opium, made into as small a pill as possible; or try equal parts of milk and lime water. For *hysterical* vomiting, give a drop or two of creasote thrice a day. For the vomiting of *phthisis*, give four grains of extract of conium twice or thrice a day, followed by this draught: lime water an ounce, cinnamon water half an ounce, syrup half a drachm. In the vomiting attending what is called the *iliac passion*, give two grains of calomel, with a grain of soft and recent extract of opium; and when the attempt to vomit returns, let the patient swallow half a bottle of effervescing soda water. (Dr. E. Seymour, p. 160.)

Anus.—*Fissures of.*—Let a piece of the following ointment, the size of a cherry-stone, be introduced by the finger into the anus night and morning: lard fifteen parts, tannin one part; mix. (M. Diday, p. 400.)

URINARY ORGANS.

Albuminuria.—*Chronic.*—Give elaterium as a purgative; it will relieve the dyspnœa, and assist the action of diaphoretics. Insert a seton or an issue, but do not let the discharge be too profuse. When all inflammatory symptoms have subsided, give iron; either the mist. ferri comp., or the ammonia citrate, taken in soda or Seltzer water. (Dr. Rees, p. 172.)

[Or give pulv. potass. bitart. ℥ss.; pulv. jalapæ ʒss., in a tumbler of water every morning, or every other morning, counteracting the prostrating effects by some gentle stimulant in a little weak whisky and water, or diluted chloric ether. p. 172.]

Bubo.—May be dispersed by the application of potassa fusa to the skin covering the enlarged gland, and for an inch or two beyond. (Vide Whitlow.) If thought necessary, mercurial treatment may be adopted at the same time: but for slight cases, the application of the caustic will be sufficient. (Dr. Barnes, p. 395.)

Calculus Vesicæ.—*In the Female.*—The best dilator for the urethra is a sponge tent. (Dr. Toogood, p. 225.)

Cystitis.—*Chronic.*—Give the following: ℞. Infus. buchu, ℥vss.; tinct. buchu, ʒi.; bals. copaibæ, liq. potassæ, tincturæ hyosciam. āā. ℥ss.; an ounce thrice a day. And inject the bladder thus:

the patient being either erect or recumbent, inject warm water at 98° Fahr., through a No. 9 or 10 elastic catheter, by means of a caoutchouc bag, or a syringe with a "three-way valve." When the bladder is cleansed, inject in the same manner a solution of from eight to sixteen grains of nitrate of silver in four ounces of distilled water, (at 98°,) with or without two drachms of tincture of hyosciamus. Compress the urethra so as to keep the injection in for one minute. Then give the patient a warm bath; and if the pain, &c., remain long, employ fomentations and anodynes. If required, repeat the injection at intervals of two or three weeks. (Dr. Macdonnell, p. 229.)

DIABETES.—In the early stages, give three drachms of liquor ammoniæ acetatis, and twenty minims of antimonial wine, thrice a day, together with opium in the form of a pill. When action upon the skin is obtained, keep it up by baths and frictions; gradually decrease the antimony and opium, and give stomachic medicines, especially magnesia, with Dover's powder. Opium must be used very cautiously in the advanced stages, or where there is drowsiness; and care taken to prevent intestinal accumulations. Hydrochloric acid in large doses, as much as a drachm in a pint and a half of water daily, is useful. In diet, *allow a moderate quantity of starchy aliment:* give for breakfast three quarters of a pint of strong cocoa, with six to ten ounces of bread, and plenty of fresh butter. Dinner, three quarters of a pound of meat, weighed after being dressed, and freed from bone, twelve ounces of bread, four ounces of cabbage, or two of potatoes. Tea may be taken with bread and butter, but little or no sugar. Supper, plain bread and milk. When appetite is excessive, allow more meat at dinner. Give wine or brandy diluted with water, as drinks at dinner, in preference to malt liquor. (Dr. G. O. Rees, p. 176.)

FISTULA.—*Urinary.*—Distinguish that arising from a local cause, from that depending on constitutional states. In the first form, cure the stricture which is usually the cause of the disease, by introducing a catheter every two or three days; if this fail let it be worn constantly; then try what effect its removal has; lastly, resort to operation, either by passing a staff down to the stricture, cutting down on the staff, and then dividing the stricture, or by dilating the fistula till we can pass a small gum catheter into the bladder, and then proceeding with the further steps of the operation; or by careful incision into the urethra behind the stricture, followed by the division of the latter. In the second, or *constitutional* form, restore the general health, and as local treatment, direct the patient to make pressure upon the fistula when he makes water; or introduce the catheter cautiously and at long intervals. (Mr. Colles, p. 219.)

Vesico-vaginal.—Apply creasote to the fistular opening, by means of a camel-hair brush. (Professor Emmert, p. 227.)

Practise "*autoplastie par glissement,*" thus: seize the cervix uteri and bring it down to the external parts; depress the posterior wall of the vagina towards the rectum, and bring together by suture the borders of the fistula. Then, still holding down the uterus, diminish the tension upon the sutures by incisions *through the mucous membrane of the vagina, without cutting the wall of the bladder*, parallel to the line in which the fistula is closed. Then return the uterus; put a piece of amadon into the vagina, to absorb the blood, and introduce a catheter into the bladder. (M. Jobert, p. 225.)

HYDROCELE.—Treat by incision; after the cut is made, inserting a half-unravelled piece of linen between the wounded edges of the vaginal tunic. (M. Chelius, p. 240.)

Draw off the fluid, and inject a mixture of two drachms of tincture of iodine, and six drachms of water, and allow it to remain. Keep the patient in bed for a few days after. (Mr. South, p. 241.)

LITHOTOMY.—The general treatment of lithotomy patients at St. Thomas's Hospital, is the following:—Before the operation he is kept in a quiet ward for ten days or a fortnight, his diet attended to, and his bowels regulated; the day before the operation (for which, if possible, temperate weather is chosen) he has low diet, and a dose of castor-oil; and on the morning an enema of gruel, with or without castor-oil. After the operation he is put to bed with his legs straight and close together, and a napkin put on in the same way as a child's napkin: this is changed throughout the treatment, when it becomes wet. In the evening or next morning a piece of lint is pushed up the wound by the finger, and changed whenever the patient wets; and when all the urine comes per urethram, the wound is dressed with wax and oil spread on the lint, and introduced as before. If the urine does not flow through the wound at first, the finger is introduced to remove any obstruction; and if the discharge stop from swelling of the wound, no lint is introduced, but a bread poultice applied. Cold is not applied, and an opiate rarely given. For the first week or ten days, the belly is fomented with camomile. The diet is at first farinaceous, and is gradually improved; and castor-oil is given on the third day. (Mr. South, p. 232.)

PARAPHYMOSIS.—It is necessary to reduce the swelling of the prepuce as well as that of the glans. Squeeze the prepuce gently but steadily for a few minutes, and if this does not suffice make a few punctures to let out the serum. Then press the glans with the thumbs of both hands while the two forefingers grasp the penis behind the prepuce: or grasp the whole penis with the left hand, and with thumb and forefinger of the other hand, empty the glans. As soon as ever a little of the glans gets beneath the constricting band, continue the pressure until the whole is returned. After the reduction keep the penis in cold wet cloths for some hours, and afterwards apply a warm poultice. (Mr. South, p. 247.)

PHYMOSIS.—In operating for phymosis make the incision close to and parallel to the frænum. (Dr. Hargrave, p. 246.)

URINE.—*Incontinence of, in Children.*—Give a combination of copaiba, laudanum, and protoxide of iron, made into pills. (Dr. Berenguier.)

Give one-fifth of a grain of extract of belladonna twice a-day, and increase at the end of a week if no effect be produced. (Dr. Moraud, p. 179.)

Retention of.—When the urethra is blocked up with coagula from disease of the prostate or injury of the passage itself, put a small gum catheter, with its stilet, into a full sized catheter of the same material, from which the stilet has been withdrawn; introduce this compound catheter in the usual way, and then withdraw the smaller one. (Dr. Bernard, p. 223.)

VARICOCELE.—Isolate with the finger the varicose veins from the vas deferens; pass a lancet-shaped needle threaded with a silver wire *behind* the veins and in front of the vas, and through the same openings pass a wire of half the thickness of the former in *front* of the veins. Bend the larger wire, to give it a concavity looking forwards; then exert on it a gentle movement of rotation and torsion, so that the veins become at first compressed, and then twisted round the wire. Thus the veins become obliterated, and at the same time the testicle is drawn up towards the abdomen. Place now a little pad between the two punctures, bend back the ends of the wires over it, and twist them together. (M. Vidal, p. 240.)

DISEASES OF THE SKIN.

BURNS.—Of the first and second degree: apply cloths steeped in liq. ammoniæ, for an hour after the accident. (M. Guérard, p. 259.)

Burns and Scalds.—Apply treacle all over the injured surface, and cover it with folds of well-aired linen. Remove the dressing in two or three hours, and again apply it. After the second or third day, it will not require renewing more than once or twice daily. (Dr. Payne, p. 258.)

CHAPPED HANDS, FACE, OR NIPPLES.—Apply a wash with glycerine and sixteen times the quantity of rose water, with a few grains of borax. (Mr. Startin, p. 260.)

ERYSIPELAS.—In addition to general treatment apply the following solution to the inflamed skin, and for two or three inches beyond its margin. ℞. Argenti nitratis, ℈iv.; acidi nitrici, gtt. vi.; aquæ distillatæ, ʒiv. Before the application the part should be washed with soap and water, and then pure water; and the solution must be again applied in twelve hours if the first application is found not to have been uniform. (Mr. Higginbottom, p. 257.)

When the disease is commencing, apply narrow blisters round the entire circumference of the inflamed skin, at a distance of an inch or two from its border. (M. Piorry, p. 258.)

Ichthyosis.—Give 'aqua picea.' (Vide Psoriasis inveterata.) (Dr. Romberg, p. 252.)

Impetigo.—Apply a lotion containing glycerine. (Mr. Startin, p. 260.)

Lepra.—Apply a lotion containing one-fourth to one-sixteenth of glycerine. (Mr. Startin, p. 260.)

Lichen.—Apply a lotion containing glycerine. (Mr. Startin, p. 260.)

Nails.—*Evulsion of the.*—With a concave iron spatula press back the skin from the *root* of the nail, then by a quick and dexterous movement get the spatula insinuated under the nail, and push it forward. (M. Long, p. 260.)

Pityriasis.—Apply a lotion with one-fourth, eighth, or sixteenth of glycerine. (Mr. Startin, p. 259.)

Give arsenic as in psoriasis, with mild purgatives, such as,—℞. Pil. coloc. co. ℈ii; ext. hyosc. ℈i. M. ft. pil. xii.; capt. ij. omni nocte. And apply a little spermaceti cerate to the parts affected. When the disease is purely local, it may suffice to apply a little dilute citrine ointment. (Dr. Wright, p. 254.)

Porrigo Scutulata.—Employ creasote ointment. (Vide Prurigo.)

Prurigo Senilis,—After giving a warm bath, let an ointment containing from ten to twenty drops of creasote, to the ounce of lard, be rubbed into the parts every night. If the form of lotion is preferred, put twenty or thirty drops of creasote to the half-pint of water, adding a little spirit or acetic acid to assist in the solution. (Dr. Bellingham, p. 255.)

Psoriasis.—Local remedies are almost useless. According to the cause of the disease give nutritious diet, purgatives, emmenagogues or tonics. Lemon juice is sometimes useful; so are alkalies when the saliva is acid. Arsenic is a useful medicine: it may be given thus, (for twelve years of age): Decoc. dulcamaræ ℥viii.; liq. potassæ ʒi.; liq. arsenical ♏. xx. vel xxx. M. capt. ℥j. ter. die. And a powder containing four grains each of rhubarb and scammony, with or without a grain of calomel, may be given every morning. (Dr. Wright, p. 252.)

Apply a lotion containing glycerine. (Mr. Startin, p. 260.)

Diffusa.—Give liq. potassæ, twenty drops thrice a day, and apply a lotion with a drachm of sulphuret of potash to 8 oz. of water. If the scalp is affected cut the hair close, brush it over with liq. potassæ, and then apply a poultice. Give a warm bath occasionally. (Dr. Bellingham, p. 251.)

Inveterata.—Pour a quart of cold water upon a pound of pitch, and let it stand 24 hours in a cool place. Give four ounces of the water, filtered through paper, every morning, fasting; and bathe the parts with it twice or thrice a day. It may be given for months. (Dr. Romberg, p. 252.)

SCABIES.—Anoint freely with olive oil.—(Dr. Baumgaertner, p. 259.)

SYCOSIS.—Let the patient have regular diet, and abstain from stimulants: clip the hair carefully, and use no soap. Apply three times a day a lotion with two grains of corrosive sublimate, two drops of muriatic acid, and eight ounces of camphor mixture: and give arsenic and mild aperients, as in psoriasis and pityriasis. (Dr. Wright, p. 254.)

VACCINATION.—Soak a piece of sugar with the lymph, pound it when dry, and keep it in a well-closed bottle. Apply this powder by sprinkling it on the exposed surface with a hair-pencil. (Dr. Weir, p. 264.)

DISEASES OF THE EYE AND EAR.

CATARACT.—In performing extraction of the lens, if the disease is in the left eye let the patient be seated, and make the section of the cornea downwards; if in the right eye, let the patient be recumbent, and make the incision upward. Fix the eye by means of a strabismus hook inserted at the inner angle: this greatly facilitates both the introduction of the knife, and the counter-puncture. Let the eyelids be kept perfectly at rest till the wound in the cornea is healed: and to ensure this, close the sound eye after the operation by strips of adhesive plaster. (Dr. Bellingham, p. 270.)

DEAFNESS.—*With Tinnitus Aurium.*—Cautiously pass a very mild magneto-electric current from the mouth of the eustachian tube, to the external auditory passage. (Dr. Kramer, p. 104.)

ENTROPION.—Raising the eyelid from the globe so as to admit the blade of a strong pair of scissors under it, make a perpendicular incision a quarter of an inch long through the tarsal cartilage and lid, upon the temporal side, and a second upon the nasal side, avoiding the puncta, and including the entire inverted portion of the lid: evert the flap, and with a small scalpel connect the perpendicular incisions by a horizontal one through the conjunctiva and tarsal cartilage close to its ciliary margin; apply sulphate of copper to diminish the chance of adhesion in the horizontal incision, and if adhesions take place, break them up. The success of the operation depends upon the horizontal incision healing by granulation. When the inversion is very complete, and of long standing, excision of the edge of the tarsal cartilage with the bulbs of the eyelids must be practised. (Dr. Bellingham, p. 267.)

MYRINGITIS.—*Acute.*—Keep the patient in a warm room or in bed; cup from the nape, or still better, apply 4 or 6 leeches, by means of a leech glass, immediately within and around the external meatus, having previously inserted a morsel of cotton wool; or to the mastoid region, or behind the ramus of the jaw. Hold the ear over very hot water, medicated with hyoscyamus, opium, belladonna, &c. Or apply a warm linseed poultice, renewing it every two or three hours. In the advanced stages apply blisters, and dress them with mercurial ointment. Together with these measures, give mercury; and subsequently, iodide or bromide of potassium, or bark. Never pour any liquid, either stimulating or sedative into the ear. (Mr. Wilde, p. 275.)

OPHTHALMIA.—*Scrofulous.*—If intolerance of light remains after the mitigation of the inflammation, use belladonna collyrium, and apply nitrate of silver to the skin of the superior palpebra. (Mr. France, p. 265.)

For the intolerance of light let the patient inhale ether-vapour. (Dr. Mackenzie, p. 271.)

Ether inhalation will not cure, though it relieves the intolerance of light; but may be used in children to facilitate examination of the eye, or the application of nitrate of silver, &c. For very young children pour half a drachm of ether into a basin containing a little lukewarm water, and hold it under the child's face for a few seconds, a handkerchief or towel being thrown over the head to confine the vapour. (Dr. T. Smith, p. 272.)

MIDWIFERY AND THE DISEASES OF FEMALES.

ABORTION.—To produce abortion during the early months of pregnancy, use a gum male catheter sufficiently firm to preserve its straight form against moderate resistance, and having a perforation at its extreme point large enough to admit the passage of a common wire stilet. The patient being placed on her left side, guide the instrument by the finger into the os uteri and through the cervix; pass it on until it meets the membranes, then introduce the stilet, and press it through the opening at the apex of the catheter so as to perforate the membranes; then push the catheter itself forward, and evacuate the liquor amnii. (Mr. Salter, p. 283.)

Habitual.—Give tonics and antispasmodics: as two grains and a half of oxide of zinc, and two grains of extract of hop thrice a day; and with each pill two spoonsful of a mixture containing valerian, sp. ammon. co., and infusion of snake-root. When pain comes on, give a grain of opium every hour till it is relieved. (Dr. Griffin, p. 327.)

AMENORRHŒA.—If chlorosis exist, first remedy this anæmic condition by improving the general health, giving iron, &c., and when the blood has been thus improved, *use electricity.* Transmit a dozen shocks through the uterus, from a jar holding about a pint, one conductor being placed over the lumbo-sacral region, and the other on the pubes: or use the *alternating current* from the electro-magnetic machine, as the electricity seems here to act simply as a local stimulant quite independently of exciting any uterine contraction. (Dr. G. Bird, p. 340.)

CERVIX UTERI.—*Inflammatory Ulceration and Induration of.*—Potassa fusa is the best application; it requires to be held strongly for a time against the part to be destroyed, and a large quantity of vinegar and water is to be immediately thrown up through the speculum, to neutralize any potash remaining on the part. (Dr. Simpson, p. 336.)

The best application for obstinate cases is the actual cautery. A round, conical, or flattened cautery-iron must be heated to a white heat, introduced through an ivory speculum, and kept in contact with the cervix for one or two seconds. (M. Jobert, p. 337.)

DYSMENORRHŒA.—Ascertain if it depend upon ulceration of the os and cervix uteri, which must then be treated by the application of nitrate of silver. (Dr. Edwards, p. 340.)

ETHERIZATION.—In midwifery practice carry the etherization in ordinary cases only until the cerebrum and pons varolii are under its influence; but in cases requiring extraordinary manipulation or operation, bring also the cerebellum and medulla spinalis into temporary narcotism. (Dr. Protheroe Smith, p. 294.)

[Of course the practice will now be to *chloroform* instead of to etherize patients; the rules for the one being adapted to the other method.]

FUNIS PRESENTATION.—Return the prolapsed cord by the use of an instrument, consisting of a very small forceps fixed to a strong wire passing through a gum-elastic tube, the size of a No. 8 male catheter, and 14 inches long, the apex being tipped with a small metallic ring to prevent its splitting. Draw a loop of the cord a little beyond the external parts; seize a small portion of the *coverings* of the cord with the forceps, *leaving the vessels untouched;* draw down the wire, so that the forceps will be closed by the tube, and keep it in that position by screwing close up to the ivory handle of the canula a small nut upon the wire. When the cord is returned into the uterus, relax the grasp of the forceps by unscrewing the nut and pushing up the wire. (Mr. Stephens, p. 281.)

HÆMORRHAGE.—*Post-partum.*—When this has occurred at previous labours, or when incomplete contraction of the uterus renders its occurrence probable, give a dose of ergot as soon as the child is born. (Dr. Beattie, p. 326.)

[Or rather give a good dose some time before this. There is no use in waiting till the child is born. The best practice is to give it half an hour or more before the birth, if the uterus be inert. ED.]

During Labour.—When the patient is sinking from loss of blood, administer ether vapour as a *stimulant:* and after the labour, even if the uterus has contracted well, give a dose of secale cornutum. (Dr. Protheroe Smith, p. 301.)

LABOUR.—When electricity is employed in labour, use the single-current electro-magnetic machine, applying the *positive conductor upon the lumbo-sacral region,* and rubbing the other gently over the abdominal surface, always bearing in mind that an *inverse current* only tends to produce paralysis, whilst a direct current produces contraction. (Dr. Bird, p. 326.)

Premature.—To excite premature labour, inject about an ounce and a half or two ounces of tar water slowly and gently through a canula introduced about two inches between the membranes and the anterior wall of the uterus. Repeat the operation in six hours, if labour does not seem to be approaching. (M. Cohen, p. 288.)

MENORRHAGIA.—Give a drachm of finely powdered matico in two ounces of water every two hours. (Dr. Ruschenberger, p. 385.)

Give tincture of the resin of Indian hemp, (formula not given,) ten minims every four hours, with mucilage, or a little spirit. (Dr. Mitchell, p. 327.)

OS UTERI.—*Rigidity of, &c.*—Administer ether or chloroform at an early period of labour. (Mr. Braithwaite, p. 415.)

POLYPUS UTERI.—May be accompanied with ulcerative inflammation within the cervix. Take away the polypus, (if small, by a pair of speculum forceps,) and then treat the ulceration *sec. art.* by cauterization, emollient or astringent injections, hip baths, leeches to the cervix, rest, recumbency, &c. (Dr. Bennett, p. 333.)

PREGNANCY.—In order to ascertain the existence of pregnancy from a few days after conception to the middle or end of the fourth month, examine the os uteri with the speculum. Immediately after conception, as during menstruation, the labia uteri are in a state of great vascular turgescence, and the os closed and linear. In from ten to twenty days the whole uterus is found enlarged, and the circulation in it augmented; the labia are thickened and apparently elongated, the commissures less distinct, and the os apparently sunk in or dimpled. In the fourth week the os tincæ, which was before a mere chink with parallel boundaries, now an elliptical or rounded aperture, separating the labia to the extent of a line or two, and occupied by a plug of mucus. At six or eight weeks it becomes decidedly oval or circular, with a puckered or indented boundary. (Mr. Whitehead, p. 277.)

VARIOUS SUBJECTS.

Abscess.—*Best Mode of Opening.*—In the *groin:* make the incision at right angles to Poupart's ligament. In the *calf:* examine if the abscess tends to point on the external side; if so, make the incision parallel and posterior to the fibula, to separate the two layers of muscles and then puncture the abscess In the *sole* of the foot: make an incision along the outer edge of the foot, near the fifth metatarsal bone; from this the centre of the sole may be reached without wounding any important part. (Dr. Hargrave, p. 387.)

Amputation.—Approximate the flaps in the following manner: apply a bandage circularly above the stump, and insert in it two strong pins, one in front and the other behind, leaving their heads and points free; then pass a long and thick cotton thread from one pin to the other, as in the hare-lip suture. (M. Baudens, p. 200.)

Bites *of Venomous Animals.*—Apply ipecacuanha wine; or perhaps a stronger preparation might be better. (Mr. Collett, p. 401.)

Chloroform.—When used for surgical purposes put a tea-spoonful or two upon a handkerchief gathered up in the hand into a cup-like form. Hold it over the nose and mouth, at first half an inch or so off, and then apply it more and more closely. Generally a snoring sleep supervenes, but anæsthesia may exist without this. (Dr. Simpson, p. 403.)

[Would it not be an improvement to have a bit of oil silk with a fold of lint or linen next the face; to pour the chloroform on the lint, and apply as above. We think with a little management less chloroform would then be used, as we have found a great deal to be lost in the handkerchief. Would not a little *spongio-piline* serve all the purpose?]

Counter-irritation.—A good rubefacient, or counter-irritant, is potassa fusa rubbed gently on the surface till the patient complains of pain, taking care not to destroy the skin. (Dr. Ruschenberger, p. 394.)

Caustics.—The best caustic application (although not without its disadvantages) is composed of sulphuric acid and saffron incorporated together so as to form a black, homogeneous paste. (M. Velpeau, p. 352.)

"*Electric Moxa.*"—Apply a blister the size of a shilling to the part where you wish to establish counter-irritation, and another of the same size a few inches from it: when the cuticle is raised, snip it, and apply to the first one a piece of zinc foil, and to the other a piece of silver; connect them by a copper wire, and cover with wet lint and oiled silk. In forty-eight hours an eschar will appear under the zinc plate. Keep the plates on until the eschar separates, and then apply a poultice to the sore that remains. (Dr. G. Bird, p. 351.)

Vesication.—Mix one part of the strongest liquor ammoniæ with two of olive oil. Put six drops of this upon a piece of "impermeable piline," place it on the skin, and gently press with a handkerchief. In ten minutes a blister will be produced the size of a crown piece. The piline is not injured by the experiment. (M. Schacht, p. 353.)

ETHERIZATION.—1st. Keep the patient *perfectly quiet*, both during the induc- tion ef etherization, and during his recovery from it. 2nd. Avoid the stage of exhilaration, by allowing the vapour to pass into the lungs by both the mouth and nostrils as rapidly and in as great quantity as the patient can bear. Thirdly, never commence any operation until the patient is thoroughly and indubitably soporized. (Prof. Simpson, p. 293.)

[The above excellent rules apply with equal force to the administration of chloroform. ED.]

The stupor of etherization may be relieved by several forms of electricity. (M. Ducros, p. 416.)

Insensibility to pain may be produced by subjecting the patient to the passage of the electro-magnetic current. (M. Ducros, p. 416.)

FRACTURES.- - *Of the Humerus.*—Let the outside splint extend *over* the shoulder, where a strap should be attached, and passed round the body below the opposite axilla. In cases of ununited fracture use another strap passing below the elbow, and over the shoulder, and which can be buckled to any degree of tightness necessary to approximate the fractured ends. After dislocation of the humerus, or in fracture of the neck of the humerus, or the acromion process of the scapula, or scapular end of the clavicle, a light splint applied to the posterior part of the arm, with a fold of bandage attached to the end of it, and passing round under the opposite axilla, will be sufficient. (Mr. Foulis, p. 187.)

Of the Carpal End of the Radius.—Flex the hand strongly, and place the forearm on an oblique plane, with the carpus highest, permitting the hand to hang freely down: if needful press the lower fragment into position. Keep the patient in bed, and cover the seat of fracture with evaporating lotion. (Prof. Fenger.)

Pronate the arm, and keep it in a sling with the hand most elevated: support the carpus, and allow the fingers only to hang down over the end of the splint. (Mr. Busk, p. 188.)

Of the Thigh.—Apply an apparatus consisting of a long splint attached to a body belt, and secured by braces over the shoulders:

the foot is securely held in a well-padded boot, and extension is made by turning a screw which connects the boot to the bottom of the splint. (Mr. Bottomley, p. 185.)

Mr. Bulley recommends a similar splint. The necessary amount of traction is divided between the foot and the femur, by which means stretching of the ligaments of the knee is prevented. (p. 186.)

GANGRENE.—The indications are to stop its progress, and to promote the separation of the dead parts. For the first, when the gangrene is the result of inflammation, and inflammatory fever exists, employ mild antiphlogistic treatment, but watch carefully the abatement of this fever, which takes place in the transition from gangrene to sphacelus: then give generous but light diet, bark and quinine, but especially wine and ammonia; and if there are severe nervous symptoms, give frequent doses of opium. To promote the separation of the dead parts, when amputation is not indicated, leave the parts a great deal to nature. Apply emollient poultices, with or without solution of chloruret of soda or a little charcoal. Sometimes it is well to cut away part of the slough. Let the patient's linen be often changed; sprinkle the chamber with chloride of lime, and admit the fresh air. (Mr. S. Cooper, p. 361.)

Bedsores.—When there is a tendency to bedsores, remove pressure by using pillows or air-cushions, or the water-bed: often change the patient's position; and apply soap plaster to the parts most likely to be affected, or what is better, bathe them frequently with liquor plumbi or camphorated spirit. When sloughing comes on apply poultices, solution of chloruret of soda, &c. (Mr. S. Cooper, p. 365.)

Hospital Gangrene.—Remove the exciting cause by taking the patient into another ward. Internal remedies are not of much use, except mild purgatives at the commencement, and opium. The best application is strong nitric acid, which must be applied till the slough becomes of an ash colour, dry, and insensible: if the sloughs are thick, incise them before the acid is used. Give opium when the escharotic is applied. (Mr. S. Cooper, p. 365.)

Regulate the bowels by a rhubarb draught or colocynth pill. Allow good diet, but seldom wine. Give opium in such doses as to relieve the pain, and ammonia. As to local treatment, if the sore is purely phagedænic, apply tepid water, or a lotion with ext conii., ʒi.; lot. plumbi. diacet., Oj.; with or without acid. hydrocyan. ♏. xvi. If the ulcer is more sloughy, apply peruvian balsam, or tinct. benzoes. co., or ung. elemi co. mixed with balsam of copaiba, or chlorine lotion, a drachm of strong solution to fifteen of water. In the gangrenous form apply nitric acid. When the disease has ceased, treat the ulcers by nitric acid or nitrate of silver lotion, or black or red wash. (Mr. Hawkins, p. 367.)

Senile.—Dupuytren saved three-fourths of his patients by bleeding; but in this country the practice has not been so successful. Bark is inefficient: ammonia and musk are useful; so is opium. Give half grain doses of muriate of morphia every four hours; and give brandy or wine. Envelope the limb in carded wool, and apply fomentations, or poultices, and use chloride of lime to remove the fœtid smell. (Mr. S. Cooper, p. 364.)

Hæmorrhage.—Rub matico leaves into a coarse powder, and make into a paste with cold water. Remove any clots from the wound, and fill it with the paste lightly applied. (Dr. Ruschenberger, p. 385.)

Nose.—*Restoration of the.*—The ala of the nose is composed of skin, mucous membrane, and intermediate between them, fibro-cartilage. The flap for the restoration of the nose is therefore best taken from the upper lip, where both the two former elements exist. Such a flap has to be twisted less than one from the forehead or cheek, and will therefore maintain its vitality better: and the wound in the lip leaves but a linear cicatrix. (M. Bonnet, p. 399.)

Poisoning.—*With Opium or Godfrey's Cordial.*—Pass gentle shocks from the electro-magnetic machine along the spine and through the cardiac region. If the child is cold, give beef tea with ammonia, cover the whole body with heated flannels, and wrap it up in oiled-silk. Electro-magnetism may be applied to a child only three weeks old. (Mr. Tubbs, p. 184.)

Dr. Barry (p. 183) and Mr. James (p. 182) also bear testimony to the value of electro-magnetism in cases of poisoning by opium. When it is necessary to increase the power, Mr. James advises to dip the sponge of the directors in moistened salt.

Poultices.—Add a little glycerine, from one-fourth to one-sixteenth to keep them moist. (Mr. Startin, p. 259.)

Tumours.—*Encysted.*—The only treatment is entire extirpation, or else destruction of the secreting surface in their interior. The idea that they can be absorbed by the agency of mercury, iodine, &c., is purely imaginary. (Dr. J. H. Bennett, p. 387.)

Ulcers.—*Indolent.*—Regulate the secretions and then give bark and acids, porter, and generous diet. Apply ung. zinci, or ung. nitrici oxidi, or nitric acid lotion. In very stubborn cases stimulate by electricity thus:—Apply a blister the size of half a crown, at five or six inches from the sore: detach the cuticle, and apply a piece of zinc foil, place a plate of silver foil over the ulcer, connect the two by a copper wire, cover the whole with lint and oiled-silk, and leave it for a few hours. (Mr. Bransby Cooper, p. 261.)

Phagedenic, occuring in Gouty Subjects.—Apply hot poultices made of bread mixed with infusion of the whole plant of aconitum napellus, gathered while in flower, and dried in the shade. (Mr. Grantham, p. 263.)

With Exuberant Granulations.—Sulphate of copper is the best application, much better than lunar caustic. (Mr. Bransby Cooper, p. 261.)

WHITLOW.—May be removed, in the early stages, and in the later stages may be much relieved, by applying potassa fusa. Slightly moisten the end of a stick of this caustic, and rub it over the surface of the diseased and adjacent parts for a few seconds, until the patient complains of much pain. If this pain or burning sensation lasts for a few minutes, the application has been sufficient; if it subsides more quickly, reapply the caustic for a short time. Be very careful not to destroy the skin. (Dr. Barnes, p. 393.)

WOUNDS.—*From Dissection.*—Do not apply caustic, unless infection has been received from a diseased subject. For an ordinary dissection wound, wash the part well, wrap up in a poultice, and keep the arm in a sling: take an aperient of calomel, James's powder, and rhubarb, followed by a saline, and go into the country for a week. (Mr. B. Cooper, p. 360.)

As precautionary measures, apply sticking plaster to old abrasions, and anoint the whole surface of the hands, or wear India-rubber gloves. If wounded, immediately apply oil of turpentine, nitrate of silver, strong solution of alum, nitric acid with camphor, chloride of antimony, chloride of zinc, creasote, or concentrated solution of chloride of soda or lime. (Dr. Cattell, p. 360.)

Wash the wound (on the fingers or thumb) for a few minutes in cold water; then suck it, and immediately tie a ligature on the cardiac side of the wound, so tightly as to induce numbness, and keep it on for at least twelve hours. (Dr. Hargrave, p. 359.)

BOOKS RECEIVED.

The Editor begs to acknowledge the receipt of the following works:—

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TO

THE 13TH, 14TH, 15TH, AND 16TH VOLUMES,

OF

THE RETROSPECT OF PRACTICAL MEDICINE,

POINTING OUT THE PARTICULAR VOLUME AND ARTICLE IN WHICH INFORMATION ON ANY GIVEN SUBJECT MAY BE REQUIRED.

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